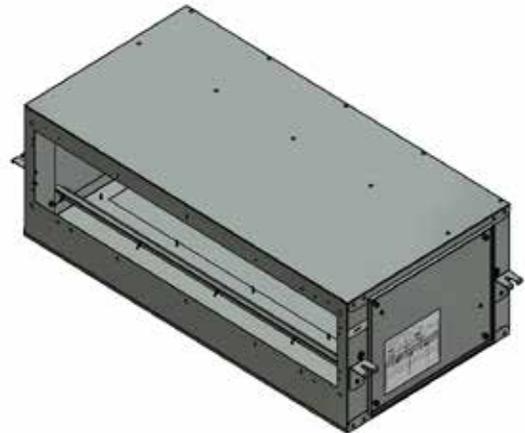




# HIGH EFFICIENCY FILTER BOX INSTALLATION AND OPERATION MANUAL

For LG High Static Ducted Indoor Units

ZFBXBH01A  
ZFBXBG01A  
ZFBXBR01A  
ZFBXB801A



**Do not throw away or destroy this manual.**

**Please read carefully and store in a safe place for future reference.**

The instructions included in this manual must be followed to prevent product malfunction, property damage, injury, or death to the user or other people. Incorrect operation due to ignoring any instructions will cause harm or damage.

The level of seriousness is classified by the symbols described below.

 <b>DANGER</b>	<i>This symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.</i>
 <b>WARNING</b>	<i>This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</i>
 <b>CAUTION</b>	<i>This symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.</i>
<b>Note:</b>	<i>This symbol Indicates situations that may result in equipment or property damage accidents only.</i>
	<i>This symbol indicates an action that should not be performed.</i>

A list of safety precautions begins on page 4.

For more technical materials such as submittals, engineering data books, and catalogs, visit [www.lg-vrf.com](http://www.lg-vrf.com).

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The instructions below must be followed to prevent product malfunction, property damage, injury or death to the user or other people. Incorrect operation due to ignoring any instructions will cause harm or damage. The level of seriousness is classified by the symbols described below.

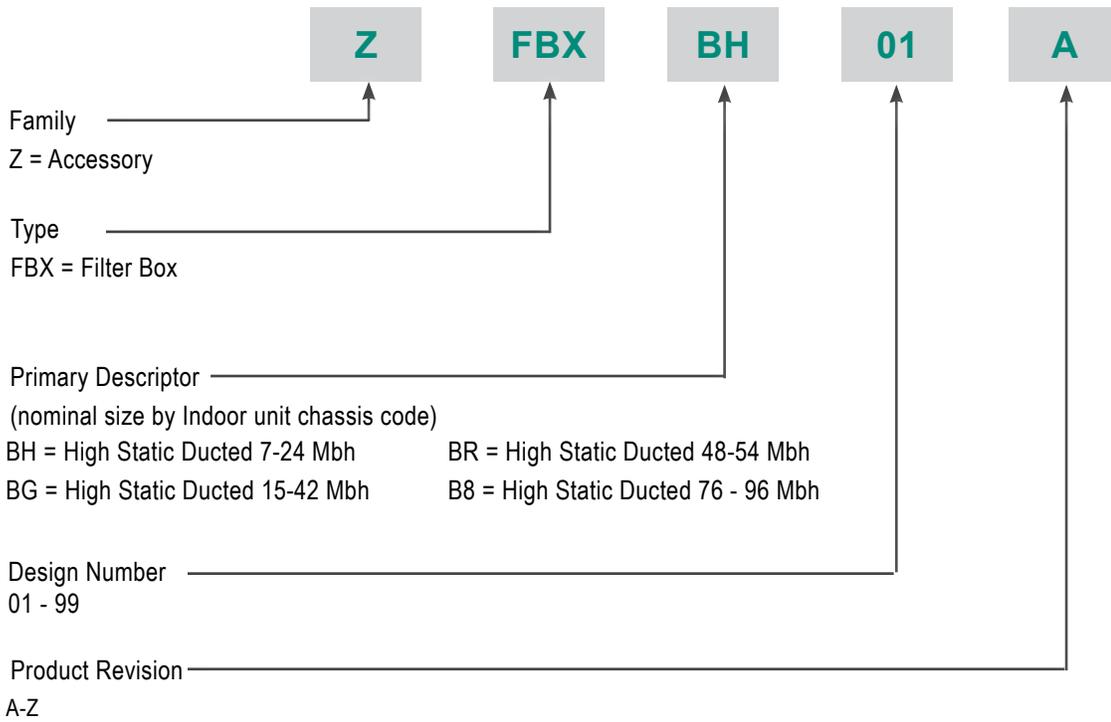
**⚠ WARNING**

Always wear protective clothing and industrial grade hand protection such as leather gloves while working with this product. Physical injury such as skin lacerations, nerve damage, paralysis, infection, or other bodily injuries may occur.

Lift with caution. Do not attempt to lift this product by yourself. Physical injury may occur.

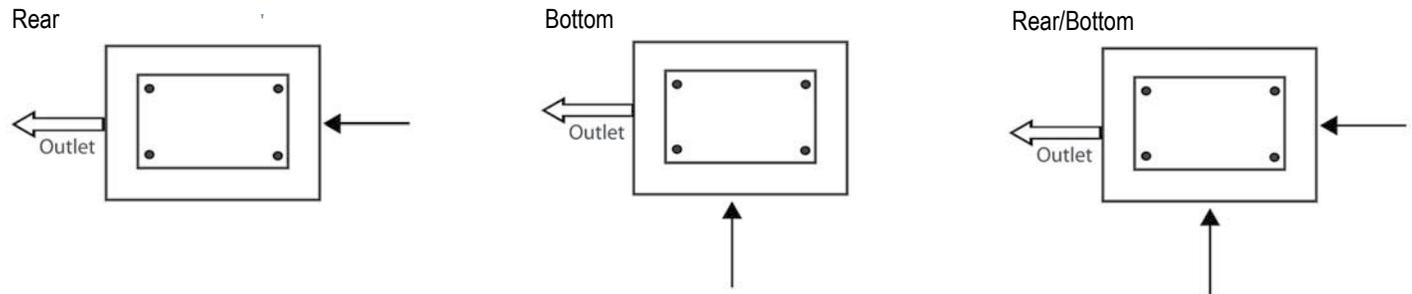
**⚠ CAUTION**

Do not drill into the sides of the filter box, internal component damage may occur.

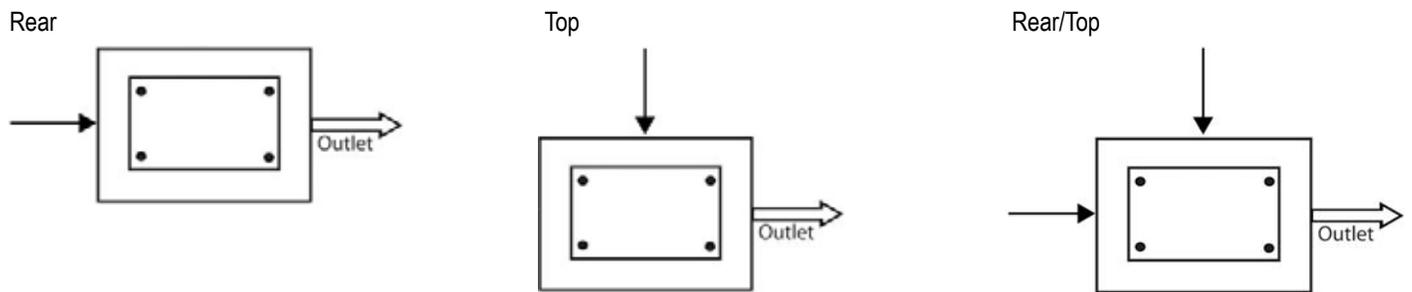


**Configuration Options**

**Right Side Filter Access Panel**



**Left Side Filter Access Panel**



High Efficiency Filter Box

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## Unpacking the Filter Box

Move the container to the installation location prior to removing the protective materials.

### Note:

*If the unit is damaged after opening the container, repack the unit in the original packing materials. RETAIN ALL PACKING MATERIALS. In general, freight damage claims will be denied if the original packing materials are not retained for the freight claim adjuster to inspect. Call your supervisor on how to proceed with filing a freight claim and to order a replacement unit. All freight damage claims must be made with the carrier within 30 days of shipment.*

1. Before opening the carton inspect it for damage.
2. Remove the protective cardboard and top sheet and place to the side.
3. Remove the filter box from the shipping carton and inspect the box for freight damage.
4. Place the box right side up on a solid level surface.
5. Check the unit nameplate data and model number. Verify it matches the label on the box and the submittal data.
6. Locate and retain the installation manual.

## Location Selection (Remote Mounted Installations Only)

If the filter box will be installed in a remote location where it is not directly connected to the LG indoor unit, choose a location that conforms to the following:

- The structure will support the weight of the filter box.
- The structure allows the filter box to easily be hung in a level position.
- The structure provides proper clearance for removing/inserting filters.
- The structure is not located near airborne sources such as grease, steam, excessive heat, flammable materials, salt, and acidic vapors which shorten filter life.

## Prepare the filter rack (only BH and BG Chassis)

- The ZFBXBH01A and ZFBXBG01A filter boxes accept either 1 or 2 inch filters. Refer to the MEP Engineer's equipment schedule for the specified filter depth.
- If the depth is not specified in the schedule, follow the guidelines shown in Tables 1 - 3. Select the appropriate table to use based on the MERV rating of your filter cartridge. If the MERV rating of the filter cartridge you wish to use is not listed, use the table with the next highest MERV rating.
- The minimum depth is determined by the capacity of the mated indoor unit. Find the indoor unit model number that will mate with the filter box. Choose the depth of filter you want to use.
- If the filter depth is 2", the rack will need to be converted to accept 2" cartridges. Open the access door on the box and remove the 1" channel from the upper and lower channels and discard.

## Connecting to the Indoor Unit

It is easier to connect the filter box to the indoor unit before hanging the indoor unit from the building structure. Rear access is required to install connecting screws. Connect the indoor unit to the filter box before connecting ductwork to the filter box inlet. The filter box is supplied with pre-drilled holes that match mating holes on the indoor unit.

## Tools and Supplies

- Fire rated, silicone, or other sealing caulk acceptable by local code
- Nut driver
- Phillips head screw driver
- #8 or #10 (maximum 3/8" long) self tapping screws
- (2) - 2"x 4" wood blocks approximately 2-3 feet long each.

**Note:**

You may re-use the pan head screws made available when the included filter rack and clips were removed. Connect the filter box to the indoor unit. Larger filter boxes will require a few field provided screws in addition to the re-used screws to complete the assembly.

1. Remove the factory provided LG washable filter, retaining clip, and filter mounting channel from the back of the indoor unit. Retain screws and use them to attach the filter box to the indoor unit. DO NOT remove the screws that secure the rear panel of the unit to the indoor unit assembly. Accommodations have been made for screw head clearance on the filter box's mating surface (wood blocks are necessary to account for the height difference of the filter box relative to smaller the indoor unit).
2. After unpacking and inspecting the indoor unit using the procedure on page 6 of this manual, place the two wood blocks on a solid surface. For indoor units with a capacity less than 4 tons, place the indoor unit on the wood blocks with the discharge end facing the floor.
3. Adjust the wood blocks so the protruding fan discharge flange is not on the blocks and so it hangs between the blocks. Verify the unit is in a stable position on the blocks. Indoor units that are greater than 4 tons will be a little more difficult to work with. Due to their physical size, place the indoor unit in the horizontal position right side up on the wood blocks on a level surface.
4. Refer to the designer's plans and specifications and note if the return air duct (or opening) is connected to the rear, top or bottom of the box. If it is connected to either the top or the bottom, remove the bolted cover plate on the bottom of the filter box and move it to the back. Reuse the bolts that were available when the panel was removed to secure the cover to the rear opening

**Note:**

*Configuration combination limitation - If the return duct will be connected to the top of the filter box, the filter access panel must be on the left, opposite the indoor unit's control panel. If the return air duct is attached to the bottom of the box, the filter access panel will be on the right, and the same end as the control panel.*

5. Refer to the designer's plans and specifications and note if the filter access panel is on the indoor unit control panel end (right end) of the indoor unit or opposite it (left end) .
6. Before mating the filter box to the indoor unit, place a bead of sealant on the discharge side of the filter box around the outlet opening. Keep the bead centerline approximately  $\frac{1}{4}$ " from the opening edge at both ends and at a distance of approximately  $\frac{1}{4}$ - $\frac{1}{2}$ " from the edge of the bottom and top sides of the opening.
7. Lift and place the filter box on top of the indoor unit with the discharge outlet of the box facing downward, toward the back of the indoor unit.
8. Line up the zip screw pitot holes on the filter box with the indoor unit. Verify the access panel and/or return air duct opening is in the correct position. On larger capacity indoor units, slide the filter box up to the indoor unit aligning the respective duct openings. For large indoor units, on the back of box use wood blocks and shims under the filter box (or the indoor unit) to line up the pre-drilled pitot holes on the filter box discharge with the pitot holes around the Indoor unit return air opening.

**Note:**

*Two sets of pitot holes are provided to connect the filter box to the indoor unit. Only one set will line up for the configuration chosen. If filters are in the filter box rack, remove them at this time. Insert screws into the pitot holes by reaching through the return air inlet opening and tighten. Do not over tighten screws and strip the pitot holes.*

## Hanging the Filter Box Assembly

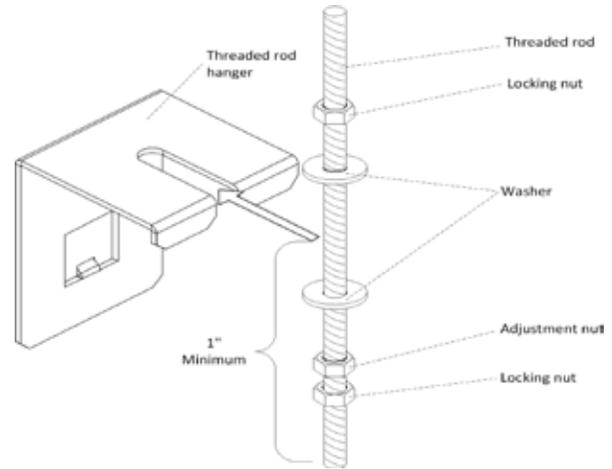
1. Using the support location dimensions provided on the cut-sheet as a template, install 8 hanger rods from a suitable building structural support (4 on the indoor unit and 4 on the filter box).
2. Install the 4 hanger brackets using the bolts provided with the filter box. The brackets can only attach to the filter box in one position.
3. After attaching the bracket, use a hammer to flatten the square tab against the inside wall of the filter box. If the brackets came installed, verify the tabs have been flattened against the inside wall of the filter box wall.
4. Lift the indoor unit/filter box assembly and secure it to 8 hanger rods.

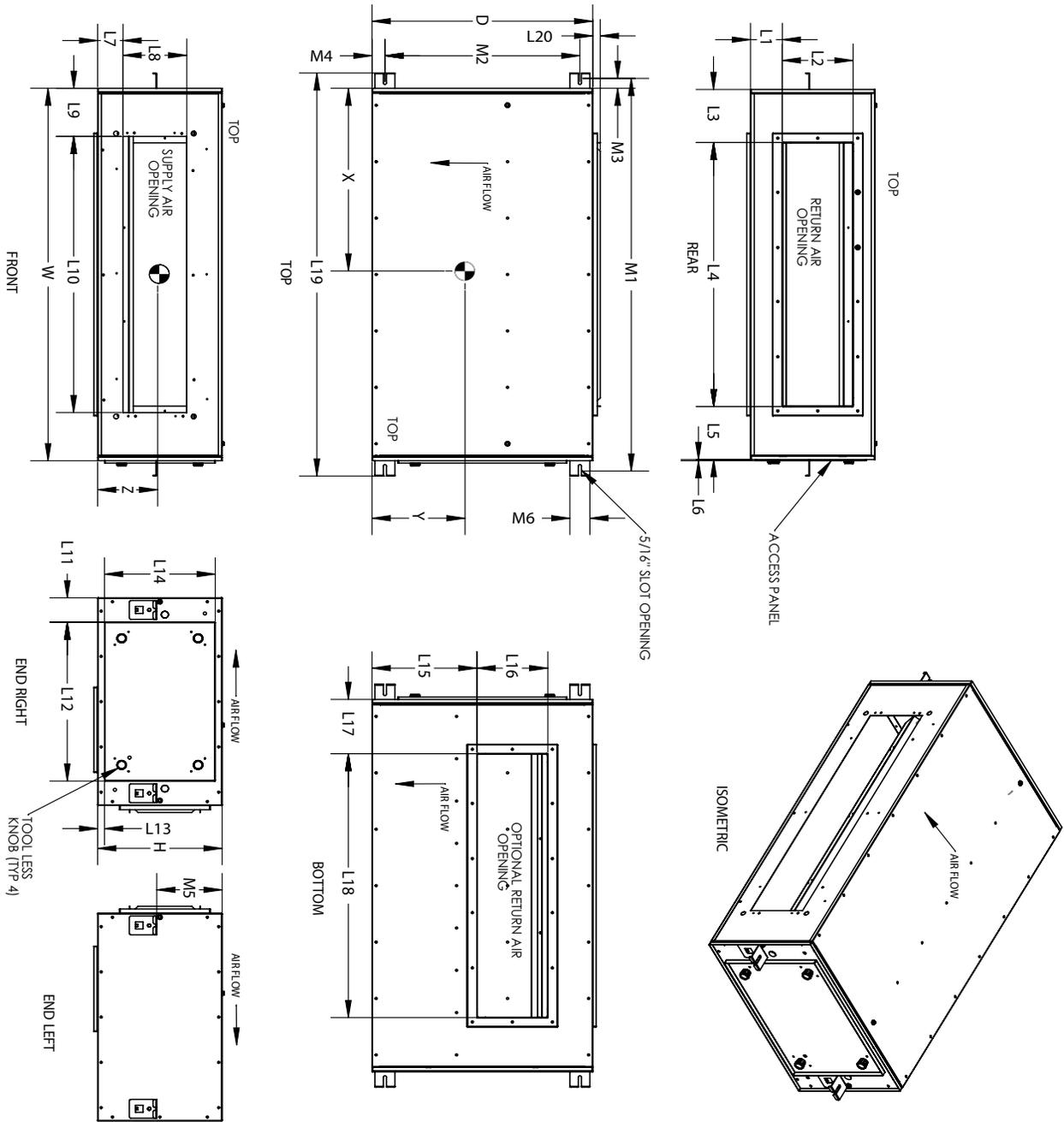
### Note:

On high static ducted models (BH, BG, BR, B8) there is an optional gravity drain connection. If the installation uses the gravity drain connection slightly tilted to one side then the assembly where the indoor unit control panel end will be lower than the opposite end (see LG Ducted Indoor Unit Installation Manual for more information).

5. Level the assembly if the factory mounted condensate pump will be used.
6. If local code requires an auxiliary drain pan under the unit, install it at this time.
7. If the filter box is installed with the return duct opening on the top or the filter access panel on the left side, the filter access panel and safety lanyard will need to be removed, rotated 180 degrees, and reinstalled. To remove the access panel, turn the 4 black knobs counter clockwise until they bottom out (1 full turn). Disconnect the access panel lanyard from the unit case, rotate 180 degrees in the same position it would have been if the filter box was mounted right side up. Re-use the factory screw and reattach the lanyard to the unit case using the pitot hole provided.
8. Locate the filter pull tool taped to the inside surface of the filter box. Remove the tape from the box and tool. Slide the tool in the lower filter rack channel with the "L shaped end facing away from the door. The "L" on the end of the tool should be facing the top filter rack channel.
9. Install field provided filters in the filter box.
10. Put the access panel in place and secure it to the unit case by turning the 4 access panel catches clockwise about one turn until they bottom out.
11. Connect any necessary ductwork.

Figure 3: Typical Hanger Bracket Petal





DIMENSIONS (IN.)

W	39-9/16
D	22-1/16
H	12-1/2
L1	2-3/16
L2	6-15/16
L3	5-3/4
L4	28
L5	5-3/4
L6	1/4
L7	2-1/2
L8	6-3/8
L9	5-1/8
L10	29-3/8
L11	2-5/8
L12	16-15/16
L13	11/16
L14	11-1/16
L15	10-7/16
L16	7-1/16
L17	5-3/4
L18	28-1/16
L19	42-7/8
L20	3/4
M1	41-3/4
M2	19-1/2
M3	1-1/16
M4	1-5/16
M5	6-1/4
M6	2

☉ CENTER OF GRAVITY

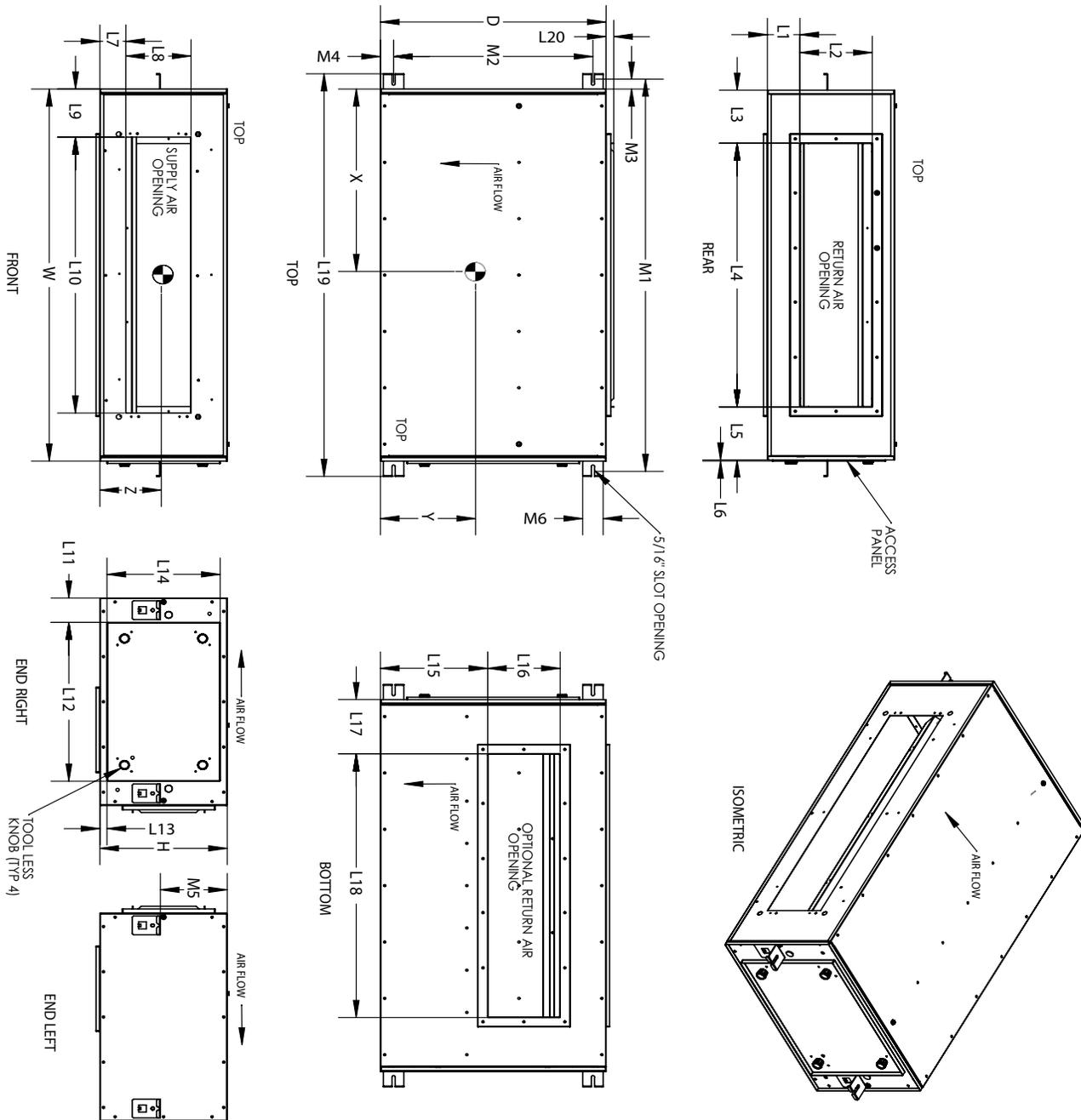
X	20-3/8
Y	11-3/8
Z	6-1/8

⊖ TOLERANCE  
ALL DIMENSIONS ±0.25"

Field provided filter quantity and nominal size:  
2-14 x 20  
Note: Filter box accepts either 1" or 2" filters. Depending on the capacity of the mating indoor unit, the 1" size may not be allowed. Refer to the High Efficiency Filter Box Engineering or Installation Manual for details.

# CUT SHEET

ZFBXBG01A



DIMENSIONS (IN.)

W	44-9/16
D	22-1/8
H	14-5/16
L1	3-1/16
L2	8-1/16
L3	2-1/4
L4	40-1/4
L5	2-1/4
L6	1/4
L7	4-3/8
L8	7-7/8
L9	1-3/4
L10	41-1/8
L11	2-5/8
L12	16-7/8
L13	11/16
L14	12-7/8
L15	9-11/16
L16	8-1/16
L17	1-13/16
L18	40-1/4
L19	47-15/16
L20	3/4
M1	46-3/4
M2	19-9/16
M3	1-1/8
M4	1-3/8
M5	7-1/8
M6	2

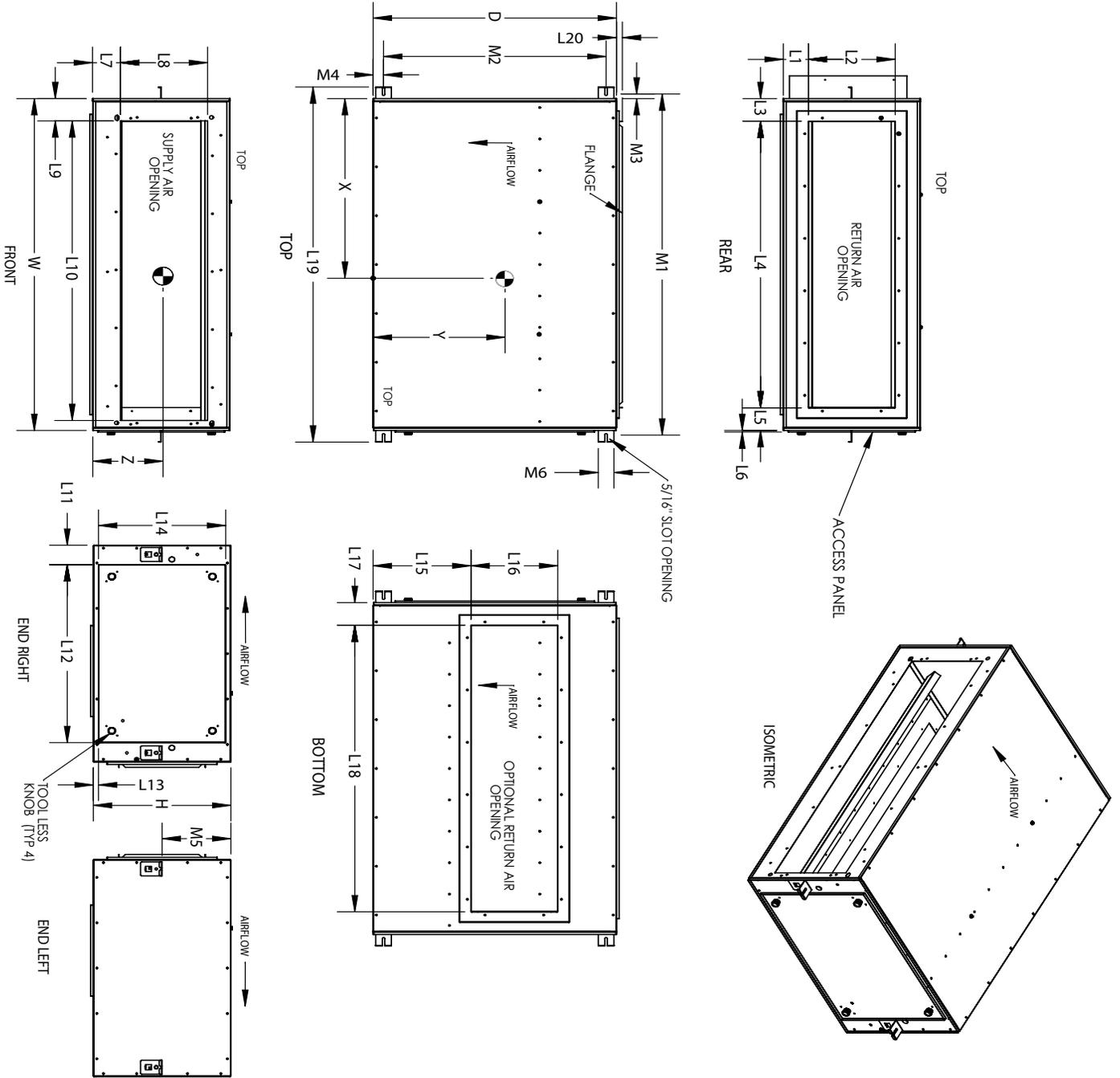
CENTER OF GRAVITY

X	22-3/4
Y	12-1/4
Z	7

TOLERANCE  
ALL DIMENSIONS ±0.25"

Field provided filter quantity and nominal size: 1-16" x 20" & 1-16" x 25"  
 Note: Filter box accepts either "1" or "2" filters. Depending on the capacity of the mating indoor unit, the "1" size may not be allowed. Refer to the High Efficiency Filter Box Engineering or Installation Manual for details.





DIMENSIONS (IN.)

W	47-9/16
D	31-1/16
H	17-7/16
L1	3-1/8
L2	11-1/8
L3	3-1/8
L4	41-1/8
L5	3-1/8
L6	1/4
L7	3-9/16
L8	11-1/8
L9	3-3/16
L10	42-15/16
L11	2-3/4
L12	25-1/2
L13	5/8
L14	16-1/4
L15	12-7/16
L16	11-1/16
L17	3-1/4
L18	41-1/16
L19	50-7/8
L20	3/4
M1	49-3/4
M2	28-7/16
M3	1-1/16
M4	1-3/8
M5	8-11/16
M6	2

☉ CENTER OF GRAVITY

X	24-1/2
Y	16-1/4
Z	8-5/8

TOLERANCE  
ALL DIMENSIONS ±0.25"

Field provided filter quantity and nominal size:  
2 - 24" x 24" x 2"  
Note: 1" filter option is not available. 2" filter  
cartridges only.

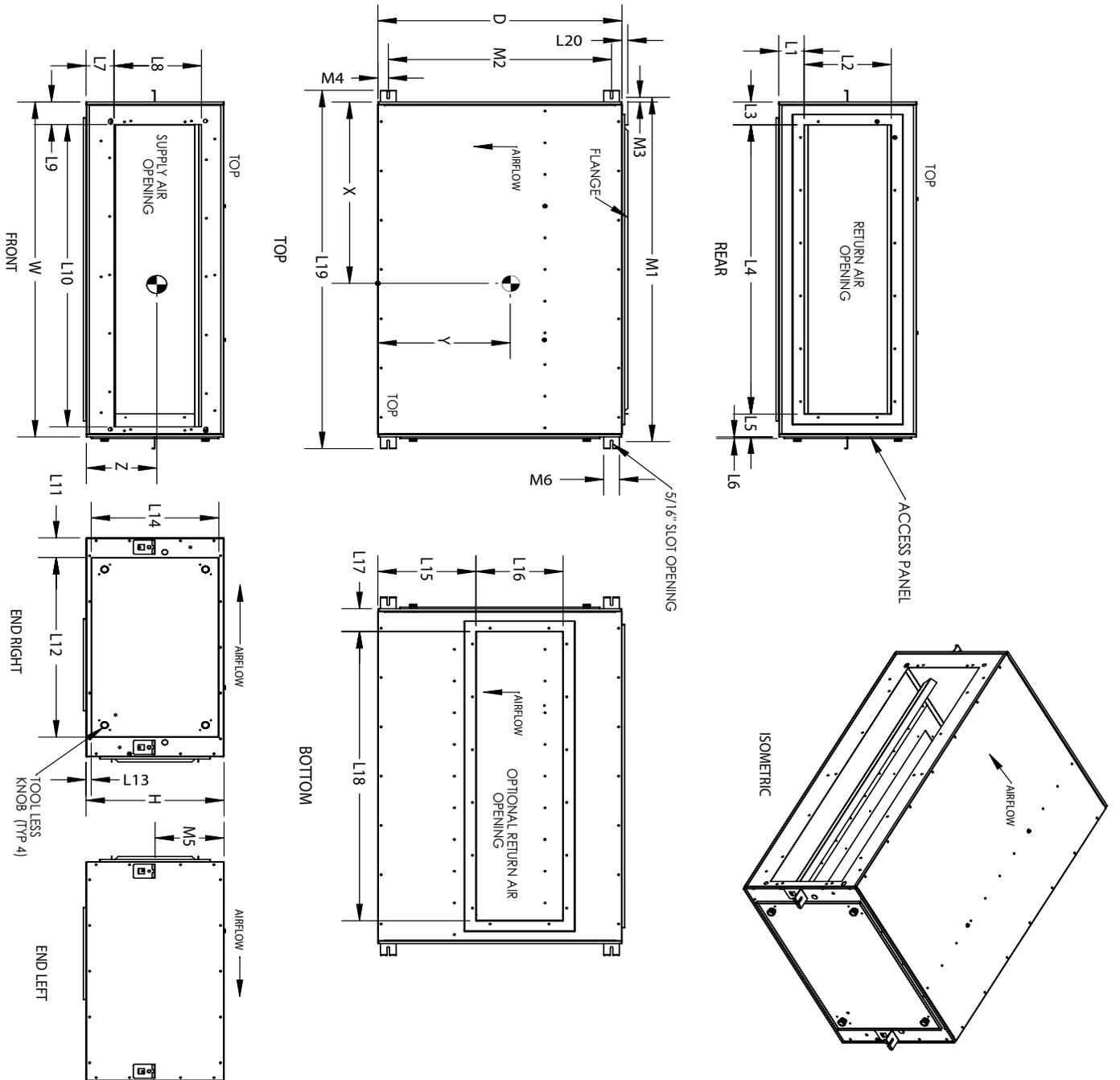


# CUT SHEET



ZFBXB801A

High Efficiency Filter Box Installation and Operation Manual



DIMENSIONS (IN.)

W	57-5/8
D	28
H	20-11/16
L1	2-5/8
L2	15-7/16
L3	1-5/16
L4	54-15/16
L5	1-5/16
L6	5/16
L7	3-1/2
L8	15-3/8
L9	1-3/8
L10	54-3/4
L11	2-1/2
L12	23
L13	11/16
L14	19-1/4
L15	10-1/16
L16	15-7/16
L17	1-5/16
L18	54-15/16
L19	61
L20	3/4
M1	59-13/16
M2	25-7/16
M3	1-1/16
M4	1-5/16
M5	10-3/8
M6	2

**CENTER OF GRAVITY**

X	29-5/8
Y	28-3/4
Z	10-5/16

**TOLERANCE**  
ALL DIMENSIONS ± 0.25"  
Field provided filter quantity and nominal size  
2-24" x 24" x 2"  
Note: 1" filter option is not available; 2" filter cartridges only.



Table 1: High Efficiency Filter Box Air Pressure Drop (in-wg) with MERV-7 Filters

Filter Box Model	LG Indoor Unit Model	Filter Box Face Area	High Mode/High Fan Speed			MERV-7					
						1 Inch Deep			2 Inch Deep		
			Total Static Pressure	Fan Setting Value <sup>1</sup>	Design Airflow (CFM)	APD w/ Clean Filters	ESP available for field use	Dirty Filter Cond. Δ APD	APD w/ Clean Filters	ESP available for field use	Dirty Filter Cond. Δ APD
FBXBH01A	ARUN073BHA2	3.9	0.47	137	300	0.054	0.166	0.250	0.052	0.168	0.250
	ARNU093BHA2	3.9	0.47	141	353	0.068	0.152	0.250	0.064	0.156	0.250
	ARNU123BHA2	3.9	0.47	146	424	0.089	0.131	0.250	0.081	0.139	0.250
	ARNU153BHA2	3.9	0.47	150	477	0.105	0.115	0.250	0.094	0.126	0.250
	ARNU183BHA2	3.9	0.47	150	547	0.128	0.092	0.250	0.112	0.108	0.250
	ARNU243BHA2	3.9	0.47	150	646	0.163	0.057	0.250	0.139	0.081	0.250
FBXBG01A	ARNU153BGA2	5.0	0.62	139	487	0.083	0.287	0.250	0.048	0.322	0.250
	ARNU183BGA2	5.0	0.62	141	537	0.093	0.277	0.250	0.055	0.315	0.250
	ARNU243BGA2	5.0	0.62	111	671	0.122	0.248	0.250	0.074	0.296	0.250
	ARNU283BGA2	5.0	0.55	160	915	0.178	0.122	0.250	0.114	0.186	0.250
	ARNU363BGA2 <sup>2</sup>	5.0	0.47	160	1141	0.241	0.000	0.229	0.158	0.062	0.212
	ARNU423BGA2	--	Not Available			Not Available			0.174	0.000	0.000
FBXBR01A	ARNU483BRA2	Not Available			Not Available			0.138	0.392	0.000	
	ARNU543BRA2	Not Available			Not Available			0.169	0.201	0.000	
FBXB801A	ARNU763B8A2	Not Available			Not Available			0.198	0.472	0.000	
	ARNU963B8A2	Not Available			Not Available			0.270	0.320	0.000	

<sup>1</sup> Modifying the fan speed may impact the cataloged sound rating.

<sup>2</sup> 0.00 in-wg external static pressure applications only.

Air pressure drop information provided should not be used for system design. LG Electronics does not endorse any brand or model of particulate filter cartridges. Filters used during air pressure drop testing were chosen at random based on what was available at that time. Air pressure drop tests conducted using Air Handler brand filters - www.grainger.com manufactured for Dayton Electric Mfg. Company, Niles IL

1" and 2" MERV-7, MERV-11 Standard Capacity Model

1" and 2" MERV-13 Green Pleat Model

When specifying a brand or model of filter, always refer to the filter manufacturer's air pressure drop technical data to specify clean and change filter air pressure drop conditions.

High Efficiency Filter Box

# INDOOR UNIT FAN SETTINGS



## MERV 11

Table 2: High Efficiency Filter Box Air Pressure Drop (in-wg) with MERV-11 Filters

Filter Box Model	LG Indoor Unit Model	Filter Box Face Area	High Mode/High Fan Speed			MERV-11					
						1 Inch Deep			2 Inch Deep		
			Total Static Pressure	Fan Setting Value <sup>1</sup>	Design Airflow (CFM)	APD w/ Clean Filters	ESP available for field use	Dirty Filter Cond. Δ APD	APD w/ Clean Filters	ESP available for field use	Dirty Filter Cond. Δ APD
FBXBH01A	ARUN073BHA2	3.9	0.47	137	300	0.048	0.172	0.250	0.036	0.184	0.250
	ARNU093BHA2	3.9	0.47	141	353	0.060	0.160	0.250	0.047	0.173	0.250
	ARNU123BHA2	3.9	0.47	146	424	0.078	0.142	0.250	0.064	0.156	0.250
	ARNU153BHA2	3.9	0.47	150	477	0.093	0.127	0.250	0.077	0.143	0.250
	ARNU183BHA2	3.9	0.47	150	547	0.115	0.105	0.250	0.095	0.125	0.250
	ARNU243BHA2	3.9	0.47	150	646	0.148	0.072	0.250	0.121	0.099	0.250
FBXBG01A	ARNU153BGA2	5.0	0.62	139	487	0.065	0.305	0.250	0.036	0.334	0.250
	ARNU183BGA2	5.0	0.62	141	537	0.074	0.296	0.250	0.042	0.328	0.250
	ARNU243BGA2	5.0	0.62	111	671	0.099	0.271	0.250	0.058	0.312	0.250
	ARNU283BGA2	5.0	0.55	160	915	0.150	0.150	0.250	0.095	0.205	0.250
	ARNU363BGA2 <sup>2</sup>	5.0	0.47	160	1141	0.205	0.000	0.265	0.137	0.083	0.250
	ARNU423BGA2	--	Not Available			Not Available			0.153	0.000	0.237
FBXBR01A	ARNU483BRA2	Not Available			Not Available			0.107	0.423	0.250	
	ARNU543BRA2	Not Available			Not Available			0.133	0.237	0.250	
FBXB801A	ARNU763B8A2	Not Available			Not Available			0.156	0.514	0.250	
	ARNU963B8A2	Not Available			Not Available			0.219	0.371	0.250	

<sup>1</sup> Modifying the fan speed may impact the cataloged sound rating.

<sup>2</sup> 0.00 in-wg external static pressure applications only.

Air pressure drop information provided should not be used for system design. LG Electronics does not endorse any brand or model of particulate filter cartridges. Filters used during air pressure drop testing were chosen at random based on what was available at that time. Air pressure drop tests conducted using Air Handler brand filters - www.grainger.com manufactured for Dayton Electric Mfg. Company, Niles IL

<sup>1</sup> and 2" MERV-7, MERV-11 Standard Capacity Model

<sup>1</sup> and 2" MERV-13 Green Pleat Model

When specifying a brand or model of filter, always refer to the filter manufacturer's air pressure drop technical data to specify clean and change filter air pressure drop conditions.

Table 3: High Efficiency Filter Box Air Pressure Drop (in-wg) with MERV-13 Filters

Filter Box Model	LG Indoor Unit Model	Filter Box Face Area	High Mode/High Fan Speed			MERV-13					
						1 Inch Deep			2 Inch Deep		
			Total Static Pressure	Fan Setting Value <sup>1</sup>	Design Airflow (CFM)	APD w/ Clean Filters	ESP available for field use	Dirty Filter Cond. Δ APD	APD w/ Clean Filters	ESP available for field use	Dirty Filter Cond. Δ APD
FBXBH01A	ARUN073BHA2	3.9	0.47	137	300	0.077	0.143	0.250	0.048	0.172	0.250
	ARNU093BHA2	3.9	0.47	141	353	0.094	0.126	0.250	0.060	0.160	0.250
	ARNU123BHA2	3.9	0.47	146	424	0.118	0.102	0.250	0.078	0.142	0.250
	ARNU153BHA2	3.9	0.47	150	477	0.137	0.083	0.250	0.093	0.127	0.250
	ARNU183BHA2	3.9	0.47	150	547	0.163	0.057	0.250	0.115	0.105	0.250
	ARNU243BHA2	3.9	0.47	150	646	0.202	0.018	0.250	0.148	0.072	0.250
FBXBG01A	ARNU153BGA2	5.0	0.62	139	487	0.090	0.280	0.250	0.053	0.317	0.250
	ARNU183BGA2	5.0	0.62	141	537	0.101	0.269	0.250	0.060	0.310	0.250
	ARNU243BGA2	5.0	0.62	111	671	0.132	0.238	0.250	0.081	0.289	0.250
	ARNU283BGA2	5.0	0.55	160	915	0.192	0.108	0.250	0.123	0.177	0.250
	ARNU363BGA2 <sup>2</sup>	5.0	0.47	160	1141	0.258	0.000	0.212	0.169	0.051	0.250
	ARNU423BGA2	--	Not Available			Not Available			0.186	0.000	0.204
FBXBR01A	ARNU483BRA2	Not Available			Not Available			0.150	0.380	0.250	
	ARNU543B8A2	Not Available			Not Available			0.196	0.174	0.250	
FBXB801A	ARNU763B8A2	Not Available			Not Available			0.209	0.461	0.250	
	ARNU963B8A2	Not Available			Not Available			0.297	0.293	0.250	

<sup>1</sup> Modifying the fan speed may impact the cataloged sound rating.

<sup>2</sup> 0.00 in-wg external static pressure applications only.

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1" and 2" MERV-7, MERV-11 Standard Capacity Model

1" and 2" MERV-13 Green Pleat Model

When specifying a brand or model of filter, always refer to the filter manufacturer's air pressure drop technical data to specify clean and change filter air pressure drop conditions.

# OPERATION AND MAINTENANCE

## Changing Filters

Only change filters when needed to maximize filter life and minimize maintenance labor cost. Determine when to change the filter by measuring the air pressure drop ( $\Delta P$ ) across the filters using a field provided magnehelic gauge or inclined manometer and 2 pitot tubes. Pitot tube ports and plugs are provided on the filter box. One is located on each side of the filter access panel near the hanger brackets.

1. The inclined manometer or a magnehelic gauge should be capable of reading pressure drops accurately down to a hundredth of an inch.
2. If the indoor unit is not already operating, begin indoor unit operations by pressing the on/off button on the zone controller or via the building BMS system.
3. Set the fan speed to high and set the zone controller room temperature set point so the fan does not change while recording the pressure drop. If the indoor unit is operating in cooling mode, set the zone temperature to 64°F. If operating in heating mode, set the zone controller temperature to 86°F.
4. Physically access the access panel end of the filter box. Remove the two plugs from the air pressure drop ports. Retain the plugs in a safe place.
5. Observe the indoor unit fan speed. When the indoor unit fan has ramped up to high speed, insert the pitot tube connected to the port tagged “low” or the “negative” port of the air pressure measurement instrument into the air pressure drop measuring port between the filters and the return air inlet of the indoor unit.
6. Insert the pitot tube connected to the port tagged “high” or the “positive” port of the air pressure measurement instrument into the air pressure drop measuring port on the inlet side of the filters.

### Note:

*When measuring static pressure, the end of the pitot tube must face into the airstream. If the end is not pointing into the air stream, the measurement may be inaccurate. Follow the specific directions provided with your measuring instrument.*

7. Record the observed air pressure drop across the filters ( $\Delta P$ ) on the filter service log located on the access panel. Compare the measured value with the dirty filter  $\Delta P$  on the filter box label or specified by the design engineer. If the measured  $\Delta P$  meets or exceeds the specified value, change the filters.
8. If the observed  $\Delta P$  is less than the dirty filter  $\Delta P$  value, re-insert the two plugs in the  $\Delta P$  measuring ports.

### Note:

*The filter box comes with a label on the access panel and is provided with a place for the installer and air balance contractor to record technical data about the filters installed such as the MERV rating and filter depth (ZFBXBH01A and ZFBXBG01A filter boxes only), and the initial  $\Delta P$  (clean filter) across the filters. The label contains fields for the air balance technician to record the indoor unit fan setting value (~fan RPM/10) as adjusted to provide cataloged air delivery. Whenever the filter box is serviced, record the measured  $\Delta P$  on the label. The label contains a service log form where the filter air pressure drop history can be recorded such as the current  $\Delta P$  across the filters, the service date, and if the filters were changed. See Figure 4 for an example.*

Figure 4: Sample Filter Media Service Log

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High Efficiency Filter Box Model # ZFBXBH01A Unit ID# \_\_\_\_\_

Replacement Filter Specifications	Qty 1- 14 x 20	<input type="checkbox"/> 1-Inch	Specified Filter	<input type="checkbox"/>								
		<input type="checkbox"/> 2-Inch		MERV Rating	6	7	8	9	10	11	12	13

Order # \_\_\_\_\_ Manufacture Date \_\_\_\_\_ Manf Plant ID \_\_\_\_\_ Checked by: \_\_\_\_\_

**Air Balance and Commissioning Information (All data recorded with fan operating at high speed)**

Air Pressure Drop (in-wg) \_\_\_\_\_ Initial Δ P (clean) \_\_\_\_\_ Dirty Filter Δ P (change) \_\_\_\_\_

IDU Fan Setting Value \_\_\_\_\_ Low Speed \_\_\_\_\_ Medium Speed \_\_\_\_\_ High Speed \_\_\_\_\_

**Filter Service Log** *Note: If a media change occurs, record the Δ P before the change. After the new media is installed take another reading and record the clean media Δ P on the next line*

Date	Δ P (in-wg)	Replaced? (Y/N)	Date	Δ P (in-wg)	Replaced? (Y/N)	Date	Δ P (in-wg)	Replaced? (Y/N)	Comments and Notes

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**Replacing Filter Media**

Verify the correct size filters are in stock before proceeding. Refer to Table 4 on page 18. Replacement filter sizes and cartridge depth required should be recorded on the filter box access panel. High Efficiency Filter Box models FBXBH01A and FBXBG01A are designed to accept both 1” and 2” deep filters. Verify the depth of the filters installed. Refer to the 1-inch or 2-inch check-boxes on the access door label.

1. Filters may be removed from the LG High Capacity Filter Box from only one side. Locate the filter access panel. It has 4 black knobs and a large product label covering the surface of the door. Depending on the installation configuration, it may be on the right or left side of the filter box.
2. Before the access panel is removed, stop indoor unit operation. Turn the indoor unit off using the BMS system or unit disconnect.

**Note:**

If indoor unit disconnect is used to stop airflow you will have to cycle the power to the outdoor unit after power is restored to the indoor unit.

3. Remove the filter box access panel. Turn the 4 black knobs on the access panel counterclockwise about 1 turn until they stop. The access panel is ready to be removed.
4. Remove the access panel and let it hang by the safety lanyard.
5. Pull and remove the first filter from the rack. Locate the end of the filter removal tool in the lower rack. Gently pull the tool and extract the 2nd filter.
6. As filters are extracted, place the soiled filters out of the way without disturbing the captured particulate.
7. Insert the filter removal tool back into the lower channel.

High Efficiency Filter Box



# OPERATION AND MAINTENANCE

8. Slide the rear replacement filters into the channel pushing it as far back into the rack as you can. Place the second filter in the rack and push the filters all the way into the box.
9. Replace the access panel and turn the 4 block knobs clockwise about a 1 turn until they hit their stops.
10. Restore power to the indoor unit and set the fan to operate at continuous high speed.
11. Record the clean filter  $\Delta P$ . Refer to the "Changing Filters" procedure on page 16.
12. Record the  $\Delta P$  measured in the Filter Media Service Log on the next available line. (see filter box access panel.)
13. Re-insert the two plugs in the  $\Delta P$  measuring ports removed in step 4 of "Changing Filters" on page 16.
14. Collect tools, trash, and supplies. Replace ceiling tiles if applicable.
15. Properly dispose of the soiled filters.

Table 4: Filter Specifications

Filter Box Model	Filter Quantity	Filter Type
FBXBH01A	2 - 14 x 20	1" or 2"
FBXBG01A	1 - 16 x 25 1 - 16 x 20	1" or 2"
FBXBR01A	2 - 24 x 24	2"
FBXB801A	2 - 24 x 24	2"





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