

RETURN AIR FILTER CABINET INSTALLATION FOR GAS-FIRED INDOOR HEATER

OPTION CW4, CW5, CW6, CW7, CW8, CW9, CW10, CW11, CW12, CW13, CW14, CW15, OR CW16 FOR MODEL CAUA

TABLE OF CONTENTS

GENERAL INFORMATION	1
Filters	1
Dimensions	2
COMPONENTS	4
INSTALLATION	6
Cut Inlet Air Opening and Drill Mounting Holes	6
Cut Inlet Air Opening and Drill Mounting Holes—Continued	8
Installation of Return Air Filter Cabinet on Side (Option CW4, CW5, or CW6) or Rear (Option CW7, CW11, or CW12) of Heater	8
Install Filter Cabinet with Horizontal (Rear) Inlet	9
Install Filter Cabinet with Vertical (Top) Inlet	11
Installation of Return Air Filter Cabinet on Rear or Side of Heater (Option CW8, CW9, or CW10, Unit Size 150 or 200 Rear Inlet Only)	12
Installation of Bottom Return Air Filter Cabinet (Option CW13, CW14, CW15, or CW16)	14
Heater Startup	15

GENERAL INFORMATION

- These instructions are for installing an optional return air filter cabinet on a model CAUA heater.
- Refer to the installation manual provided with the heater for important safety information.

Filters

Where Assembled	Option	2-Inch Filter Type	Unit Size
Field	CW4	Pleated	All
	CW5	Permanent	
	CW6	Pleated or permanent*	
	CW7	Pleated	
	CW8	Pleated	150, 200
	CW9	Permanent	
	CW10	Pleated or permanent*	
	CW11	Pleated or permanent *	
Factory	CW12	Permanent	All
	CW13	Disposable	
	CW14	Pleated	
	CW15	Permanent	
	CW16	Pleated or permanent*	

*Field-supplied.

GENERAL INFORMATION—CONTINUED

Filters—Continued

Table 2. Return Air Filter Cabinet CFM Applicability					
Option	Unit Size				Option
	150	200	250, 300	350, 400	
	CFM Available				
CW4	1800, 2400, 3000	2400, 3000	3000, 5000*	4300, 5000	CW4
CW5			3000, 4000, 5000*	4300, 5000, 6000	CW5
CW6			3000, 4000, 5000	4300, 5000	CW6
CW7			1800, 2400	2400	—
CW8	1800, 2400, 3000	2400, 3000	—	—	CW8
CW9			—	—	CW9
CW10			3000, 4000, 5000	4300, 5000, 6000	CW10
CW11			3000, 4000, 5000	4300, 5000, 6000	CW11
CW12			3000, 4000, 5000	4300, 5000, 6000	CW12
CW13			3000, 4000, 5000	4300, 5000, 6000	CW13
CW14			3000, 4000, 5000	4300, 5000, 6000	CW14
CW15			3000, 4000, 5000	4300, 5000, 6000	CW15
CW16	3000, 4000, 5000	4300, 5000, 6000	3000, 4000, 5000	4300, 5000, 6000	CW16

*For 5,000 CFM on unit sizes 250 and 300, install either a cabinet on the rear of the heater or two side cabinets—one on each side.

Dimensions

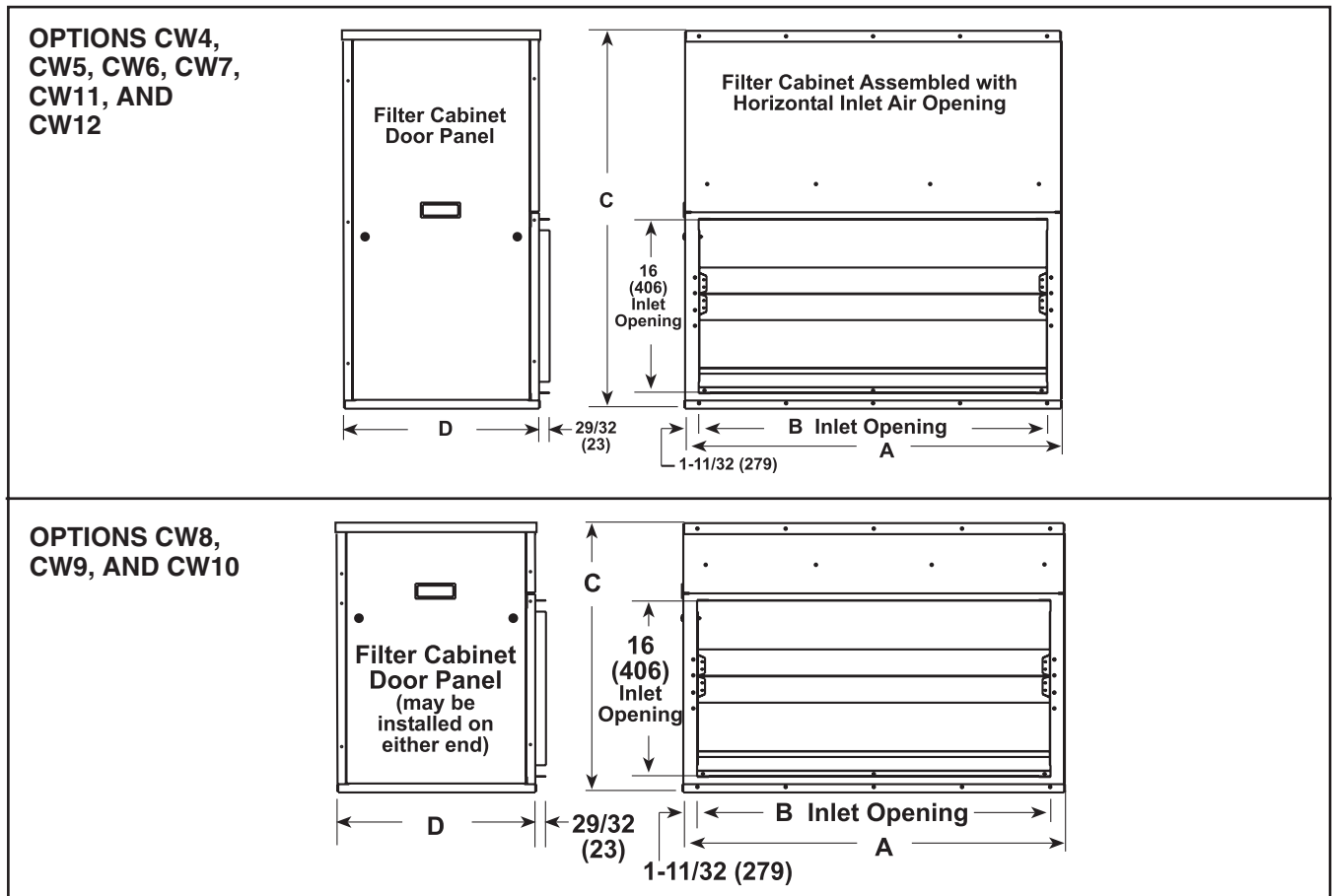


Figure 1. Rear Inlet Cabinet Dimensions (Refer to Table 3)

Table 3. Rear Inlet Cabinet Dimensions					
Unit Size	CW Option	Dimension*			
		A	B	C	D
Inches (mm)					
150, 200	4, 5, 6, 7, 11, 12	34-11/16 (881)	32 (813)	34-3/4 (883)	18 (457)
	8, 9, 10			21-5/32 (537)	12-1/2 (318)
250, 300	4, 5, 6	34-11/16 (881)	32 (813)	34-3/4 (883)	18 (457)
	7, 11, 12	47-13/16 (1214)	45-1/8 (1143)		
350, 400	4, 5, 6, 7, 11, 12	47-13/16 (1214)	45-1/8 (1143)		

*See Figure 1.

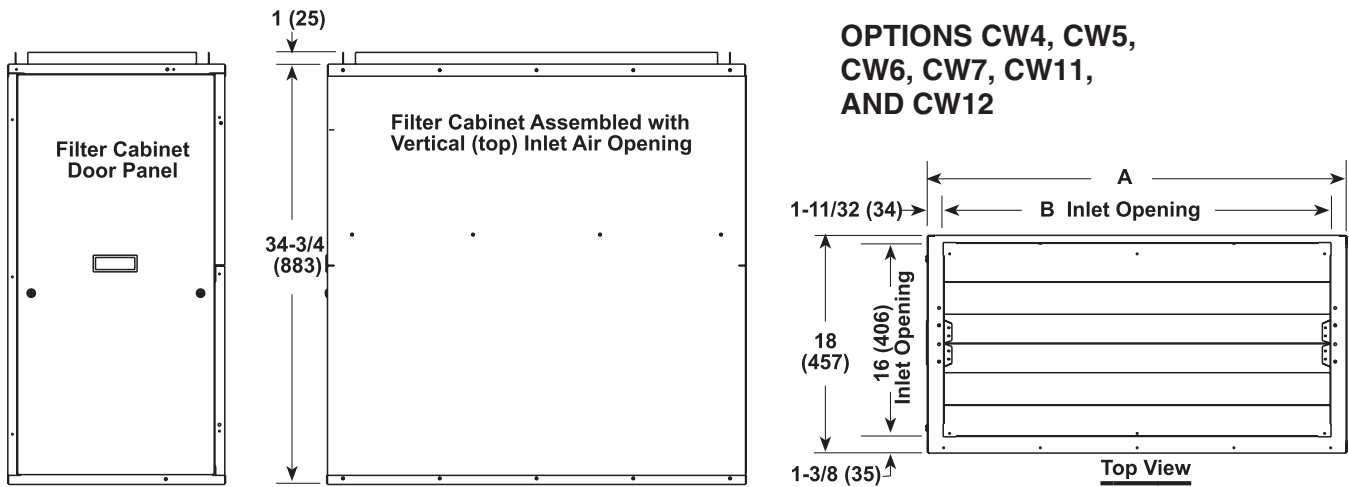


Figure 2. Top Inlet Cabinet Dimensions (Refer to Table 4)

Table 4. Top Inlet Cabinet Dimensions			
Unit Size	CW Option	Dimension*	
		A	B
Inches (mm)			
150, 200	4, 5, 6, 7, 11, 12	34-11/16 (881)	32 (813)
250, 300	4, 5, 6	34-11/16 (881)	32 (813)
	7, 11, 12	47-13/16 (1214)	45-1/8 (1143)
350, 400	4, 5, 6, 7, 11, 12	47-13/16 (1214)	45-1/8 (1143)

*See Figure 2.

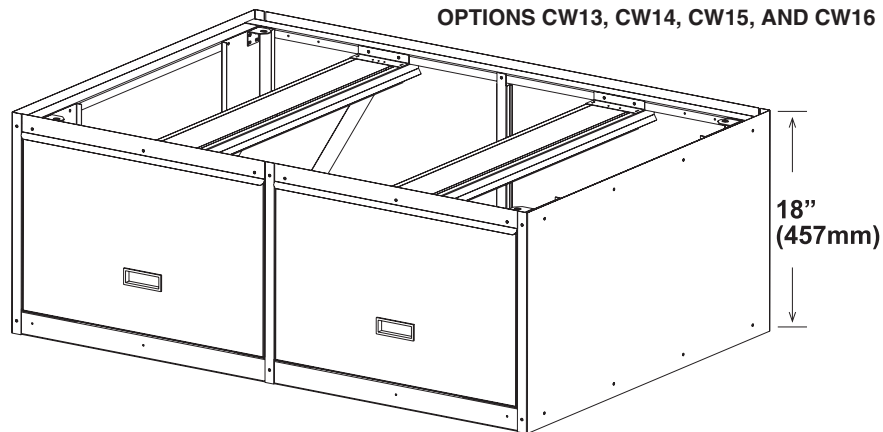


Figure 3. Bottom Inlet Cabinet Dimensions

COMPONENTS

Ensure that all components listed in [Table 5](#), [Table 6](#), [Table 7](#), or [Table 8](#) are available before beginning installation.

Table 5. Option CW4, CW5, and CW6 Components							
Component	Description	Unit Size					
		150, 200, 250, 300			350, 400		
		Option					
		CW4	CW5	CW6	CW4	CW5	CW6
		Kit PN					
166153	166154	166155	166156	166157	166158		
Component PN (Quantity)*							
Panel	Bottom	160925			160926		
	Side	160634			160634		
	Rear or top inlet, with duct flange	160927			164520		
	Top or bottom rear	160630			160631		
	Top rear	160632			160633		
Door	Assembly, with handle and latch	165033			165033		
Channel	Door	160635 (2)			160635 (2)		
Support	Filter	160636 (2)			165018 (2)		
	Filter, vertical inlet only	164524 (2)			164525 (2)		
Channel	Filter support	160923 (2)			160924 (2)		
Channel assembly	Filter	165035			165036		
Screw	Sheet metal, #10-32 × 1/2	113275 (54)			113275 (54)		
Brace	Corner	166151 (2)			166151 (2)		
Filter**	Pleated, 2 × 16 × 16	104109 (4)	—		104109 (6)	—	
	Permanent, 2 × 12 × 16	—	104103 (4)	—	—	104103 (6)	

*Quantity is one (1) unless otherwise indicated.
 **Filters for option CW6 are field-supplied 2-inch filters.

Table 6. Option CW7, CW11, and CW12 Components							
Component	Description	Unit Size					
		150, 200		250, 300, 350, 400			
		Option					
		CW7	CW11	CW12	CW7	CW11	CW12
		Kit PN					
166153	166155	166154	166156	166158	166157		
Component PN (Quantity)*							
Panel	Bottom	160925			160926		
	Side	160634			160634		
	Rear or top inlet, with duct flange	160927			164520		
	Top or bottom rear	160630			160631		
	Top rear	160632			160633		
Door	Assembly, with handle and latch	165033			165033		
Channel	Door	160635 (2)			160635 (2)		
Support	Filter	160636 (2)			165018 (2)		
	Filter, vertical inlet only	164524 (2)			164525 (2)		
Channel	Filter support	160923 (2)			160924 (2)		
Channel assembly	Filter	165035			165036		
Screw	Sheet metal, #10-32 × 1/2	113275 (54)			113275 (54)		
Brace	Corner	166151 (2)			166151 (2)		
Filter**	Pleated, 2 × 16 × 16	104109 (4)	—		104109 (6)	—	
	Permanent, 2 × 12 × 16	—	104103 (4)	—		104103 (6)	

*Quantity is one (1) unless otherwise indicated.
 **Filters for option CW11 are field-supplied 2-inch filters.

Table 7. Option CW8, CW9, and CW10 Components				
Component	Description	Unit Size		
		150, 200		
		Option		
		CW8	CW9	CW10
		Kit PN		
		166159	166160	166161
Component PN (Quantity)*				
Panel	Top	164537		
	Side	164536		
	Rear inlet, with duct flange	164533		
	Bottom	164537		
Door	Assembly, with handle and latch	166148		
Channel	Door	164535		
Support	Filter	164704 (2)		
Channel	Filter support	164532 (2)		
Channel assembly	Filter	166147		
Screw	Sheet metal, #10-32 × 1/2	113275 (20)		
Filter**	Pleated, 2 × 12 × 32	114324 (2)	—	
	Permanent, 2 × 12 × 16	—	114325 (4)	

*Quantity is one (1) unless otherwise indicated.
**Filters for option CW10 are field-supplied 2-inch filters.

Table 8. Option CW13, CW14, CW15, and CW16 Components													
Component	Description	Unit Size											
		150, 200				250, 300				350, 400			
		Option											
		CW13	CW14	CW15	CW16	CW13	CW14	CW15	CW16	CW13	CW14	CW15	CW16
		Kit PN											
		195165	195154	195157	195160	195166	195155	195158	195161	195167	195156	195159	195162
Component PN (Quantity)*													
Panel	Side	194686 (2)				194675 (2)				194675 (2)			
	Rear	194677				194662				194662			
Door cover	Top	194686				194672 (2)				194672 (2)			
Door	Assembly	194938				194939 (2)				194939 (2)			
Filter**	Disposable, 2 × 16 × 16	104101 (6)	—		104101 (8)	—		104101 (12)	—				
	Pleated disposable, 2 × 16 × 16	—	104109 (6)	—		—	104109 (8)	—		—	104109 (12)	—	
	Permanent aluminum, 2 × 16 × 16	—		104103 (6)	—		—		104103 (8)	—		104103 (12)	—
Filter rack	Assembly, single	194916 (2)				194916 (4)				194917 (4)			
	Assembly, double	194914 (2)				194914 (2)				194915 (2)			
Blockoff	Filter	195164 (3)				195164 (4)				195164 (4)			

*Quantity is one (1) unless otherwise indicated.
**Filters for option CW16 are field-supplied 2-inch filters.

INSTALLATION

NOTE: Not all screw holes will be used.

Cut Inlet Air Opening and Drill Mounting Holes

1. If heater is installed, turn OFF gas and electric power and disconnect any return air ductwork.

⚠ WARNING ⚠

Cut edges of metal cabinets are sharp.

2. Locate four embosses (see [Figure 4](#)) in metal panel where filter cabinet is to connect to heater. Embosses are corner indicators for inlet air opening.

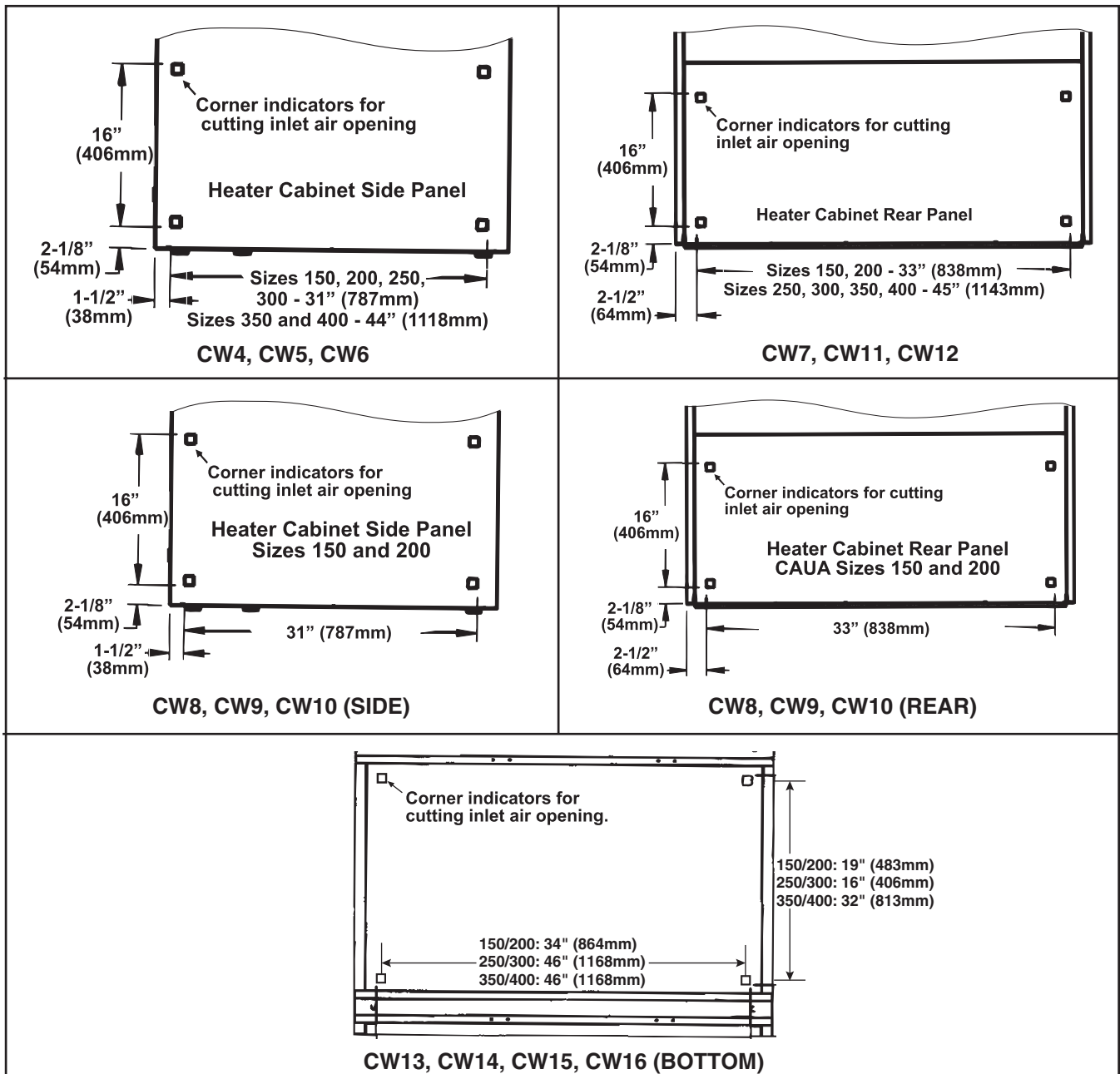


Figure 4. Embosses

⚠ DANGER ⚠

When cutting the inlet air opening for options CW13, CW14, CW15, and CW16, bottom filter cabinets, provide adequate support for the unit.

NOTE: When cutting the opening in the bottom of the unit, the unit will have to be tipped. Provide adequate support for the unit during this process. If the installation includes an optional cooling coil and/or a discharge plenum, cut inlet air opening before adding these accessories.

3. Carefully cut straight lines between embosses to create inlet opening using tin snips or aviation shears.

NOTE: Mounting hole dimensions for options CW8, CW9, and CW10 are different for the door and heater ends of the filter cabinet. Mounting holes are not required for options CW13, CW14, CW15, and CW16, bottom filter cabinets with bottom duct openings.

4. For option CW4, CW5, CW6, CW7, CW8, CW9, CW10, CW11, or CW12, mark and drill four 1/8-inch holes above inlet opening as shown in [Figure 5](#).

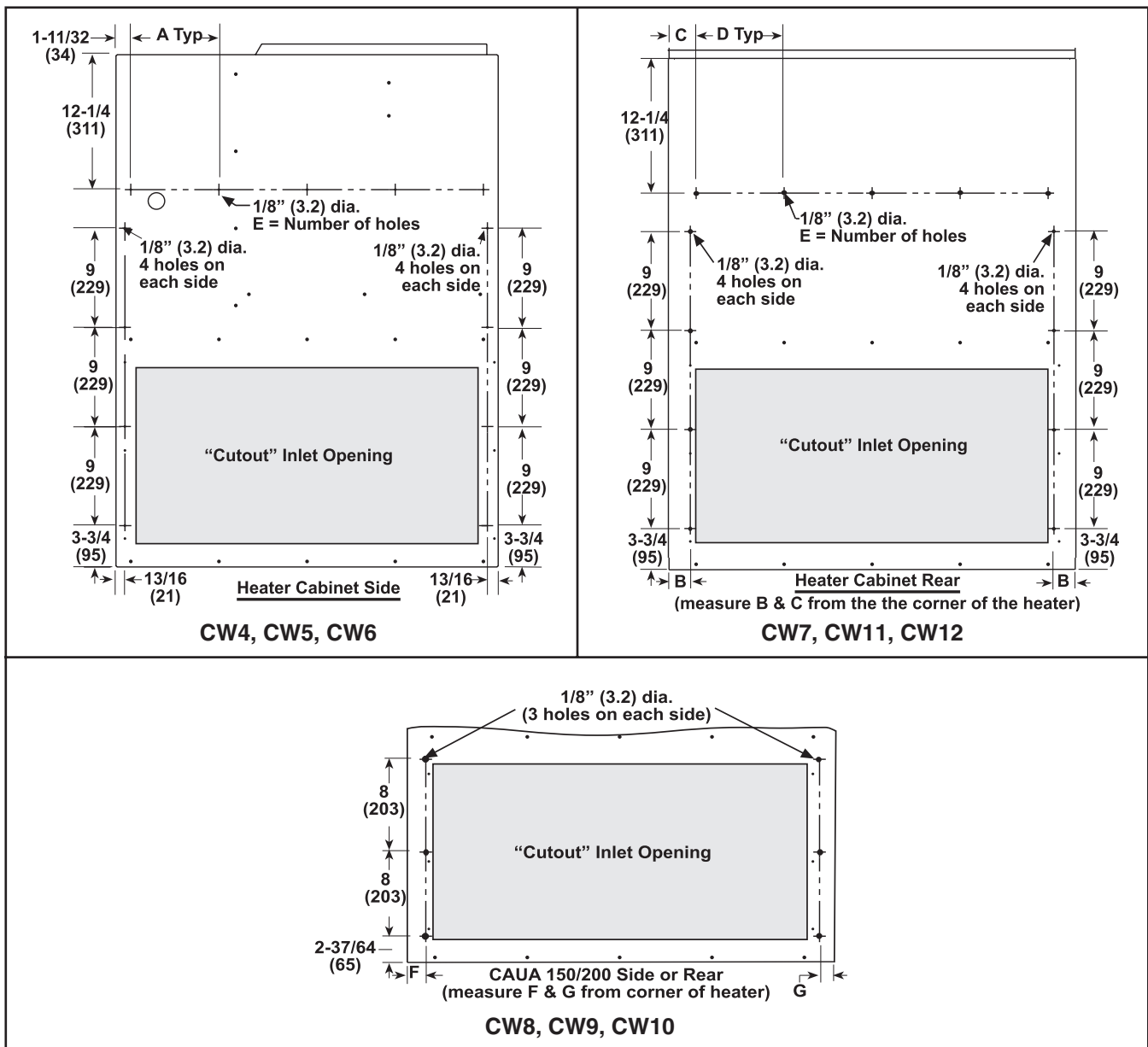


Figure 5. Mounting Holes and Dimensions (Refer to [Table 9](#))

INSTALLATION—CONTINUED

Cut Inlet Air Opening and Drill Mounting Holes—Continued

Table 9. Inlet Air Opening Dimensions				
Option	Dimension*	Unit Size		
		150, 200	250, 300	350, 400
		Inches (mm)		
CW4, CW5, CW6	A	8 (203)		9 (229)
	E (number of holes)	5		6
CW7, CW11, CW12	B	2-15/32 (63)		1-29/32 (48)
	C	3 (76)		2-1/2 (64)
	D	8 (203)		9 (229)
	E (number of holes)	5		6
CW8, CW9, CW10	F (door end)	Side panel: 1-13/16 (46)	—	
		Rear panel: 2-15/32 (63)		
	G (heater end)	Side panel: 1-11/32 (34)		
		Rear panel: 2 (51)		
CW13, CW14, CW15, CW16	A	34 (864)	46 (1168)	46 (1168)
	B	4-5/8 (117)	4-3/4 (121)	4-7/8 (124)
	C	19 (483)	16 (406)	32 (813)

*See Figure 5.

Installation of Return Air Filter Cabinet on Side (Option CW4, CW5, or CW6) or Rear (Option CW7, CW11, or CW12) of Heater

NOTE: Options CW4, CW5, CW6, CW7, CW11, and CW12 are shipped separately for field-assembly and installation. The cabinets are assembled as they are installed.

See possible configurations shown in Figure 6 and Figure 7. Return air filter cabinet is shaded gray. Refer to Table 5 or Table 6 for option package components.

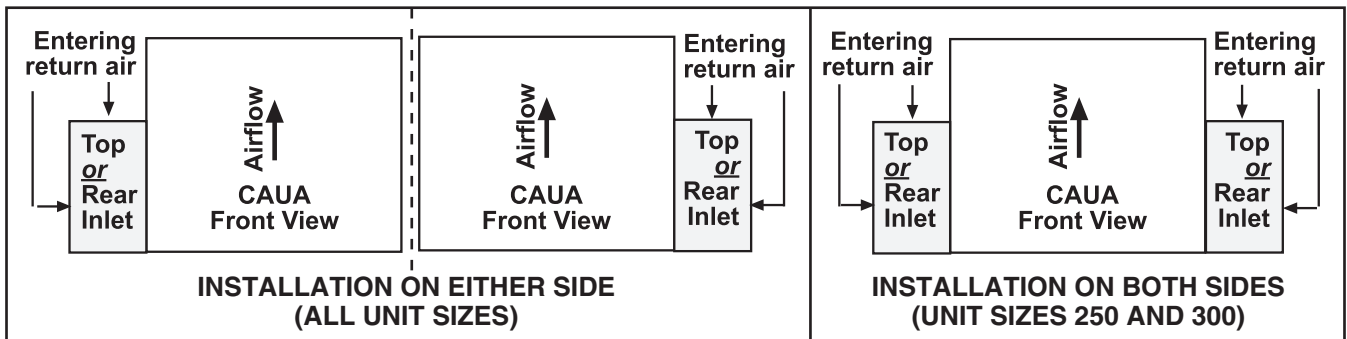
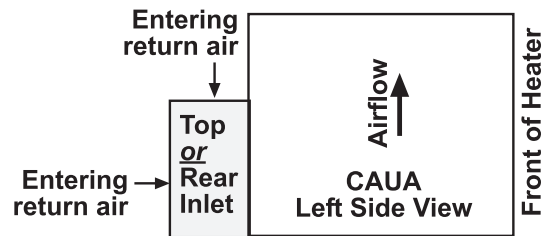


Figure 6. Option CW4, CW5, and CW6 Configurations



INSTALLATION ON REAR (ALL UNIT SIZES)

Figure 7. Option CW7, CW11, and CW12 Configuration

Install Filter Cabinet with Horizontal (Rear) Inlet

1. Assemble two filter support assemblies using two filter supports, two filter support channels, and sheet metal screws as shown in [Figure 8](#).

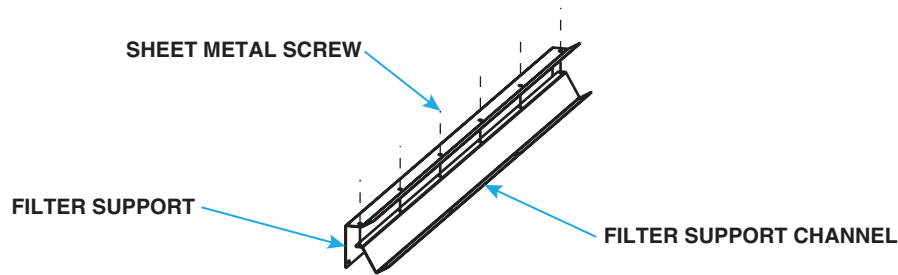


Figure 8. Assemble Filter Supports

2. Install two door channels, two filter support assemblies, and bottom panel as shown in [Figure 9](#):
 - a. Install door channels as shown and secure using sheet metal screws.
 - b. Remove existing screws from along bottom edge of heater cabinet. Position bottom panel against heater cabinet and first filter support assembly on top of bottom panel (channel up) as shown and secure bottom panel and filter support assembly using existing screws.
 - c. Remove existing screws above cutout area, position second filter support assembly over holes (channel down) as shown, and secure filter support assembly to heater cabinet using existing screws.

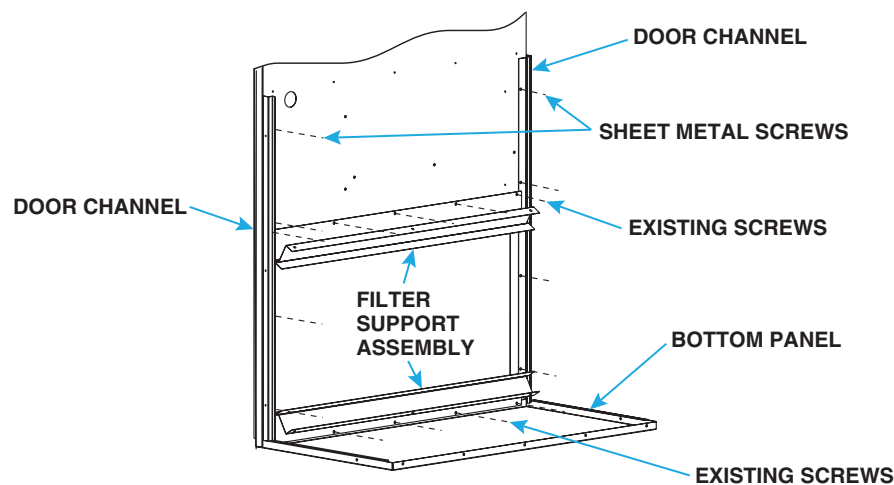


Figure 9. Install Bottom Panel and Filter Support Assemblies

NOTE: Install a side panel on one end of the filter cabinet and a door assembly on the other end of the filter cabinet.

3. Install side panel, rear inlet panel, and filter channel assembly as shown in [Figure 10](#):
 - a. Secure side panel to door channel installed in step 2a using sheet metal screws. Secure rear inlet panel to side panel and to bottom panel installed in step 2b using sheet metal screws.
 - b. Secure filter channel assembly to rear inlet panel using sheet metal screws.

INSTALLATION—CONTINUED

Installation of Return Air Filter Cabinet on Side (Option CW4, CW5, or CW6) or Rear (Option CW7, CW11, or CW12) of Heater—Continued

Install Filter Cabinet with Horizontal (Rear) Inlet—Continued

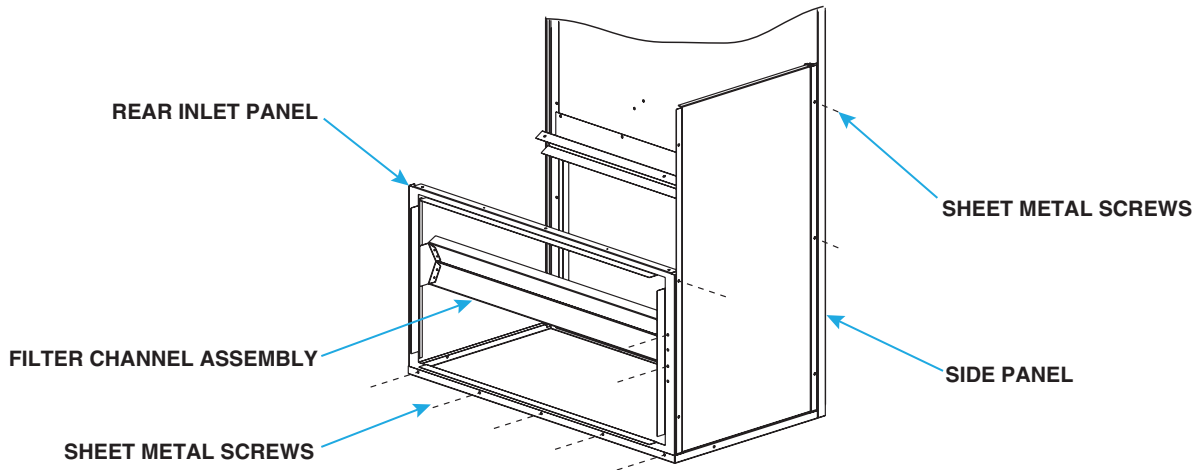


Figure 10. Install Side and Rear Inlet Panels and Filter Channel Assembly

4. Install rear top panel, top panel, and corner braces and secure filter cabinet to heater cabinet as shown in **Figure 11**:
 - a. Secure rear top panel to side panel and rear inlet panel installed in step 3a using sheet metal screws. Secure top panel to rear inlet panel and to heater cabinet using sheet metal screws.
 - b. For structural support, install corner braces—one in bottom outer corner on door end of filter cabinet and one in top outer corner. Secure braces using sheet metal screw.

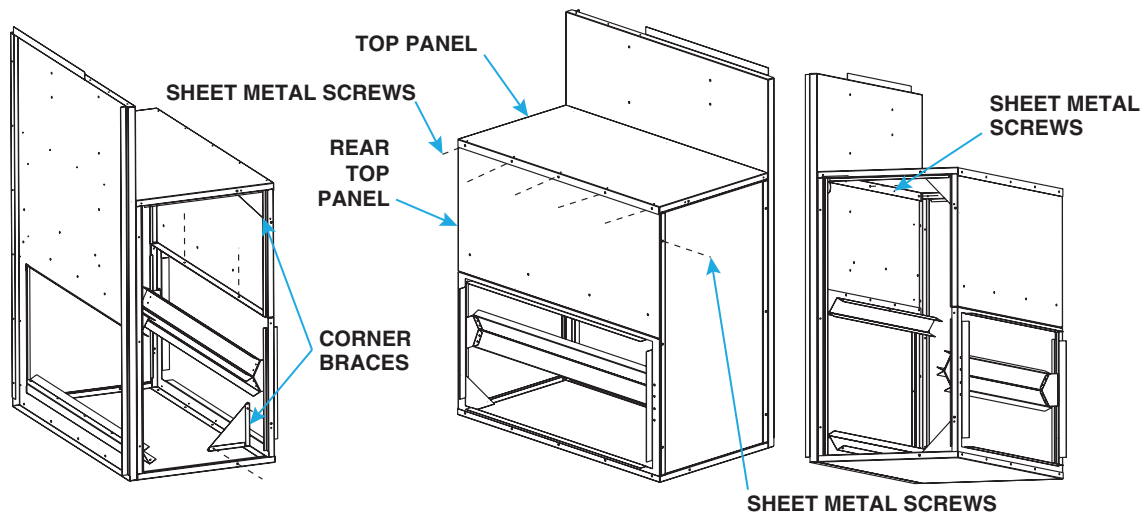


Figure 11. Install Horizontal Inlet Filter Cabinet on Heater

5. Slide filters into filter rack channels.
6. Install door assembly on open end of filter cabinet and secure using sheet metal screws. Fasten door latches.
7. Connect ductwork (refer to **Dimensions** section for duct flange dimensions).

Install Filter Cabinet with Vertical (Top) Inlet

1. Install two door channels, vertical filter support, and bottom panel as shown in **Figure 12**:
 - a. Install door channels as shown and secure using sheet metal screws.
 - b. Remove existing screws above cutout area, position vertical filter support over holes as shown, and secure support to heater cabinet using existing screws.
 - c. Remove existing screws from along bottom edge of heater cabinet. Position bottom panel against heater cabinet and filter support on top of bottom panel as shown and secure both to heater cabinet using existing screws.

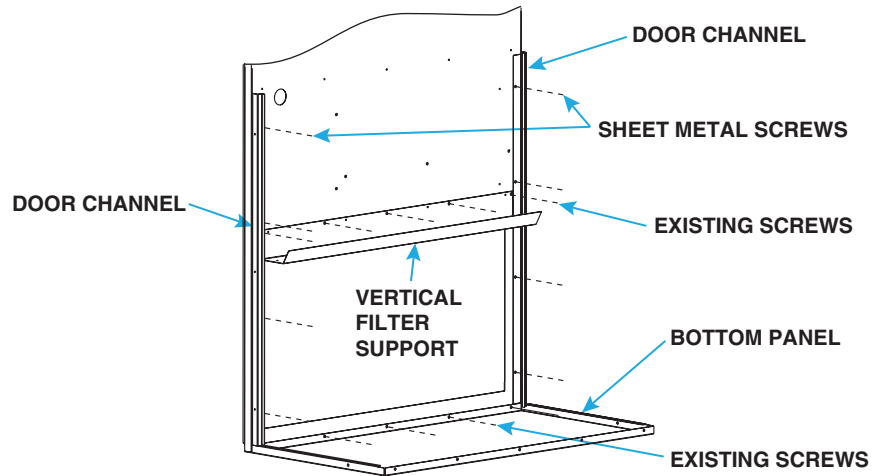


Figure 12. Install Bottom Panel and Vertical Filter Support

NOTE: Install a side panel on one end of the filter cabinet and a door assembly on the other end of the filter cabinet.

2. Install side panel and bottom rear panel as shown in **Figure 13**:
 - a. Secure side panel to door channel installed in step 1a using sheet metal screws.
 - b. Secure bottom rear panel to side panel and to bottom panel installed in step 1c using sheet metal screws.

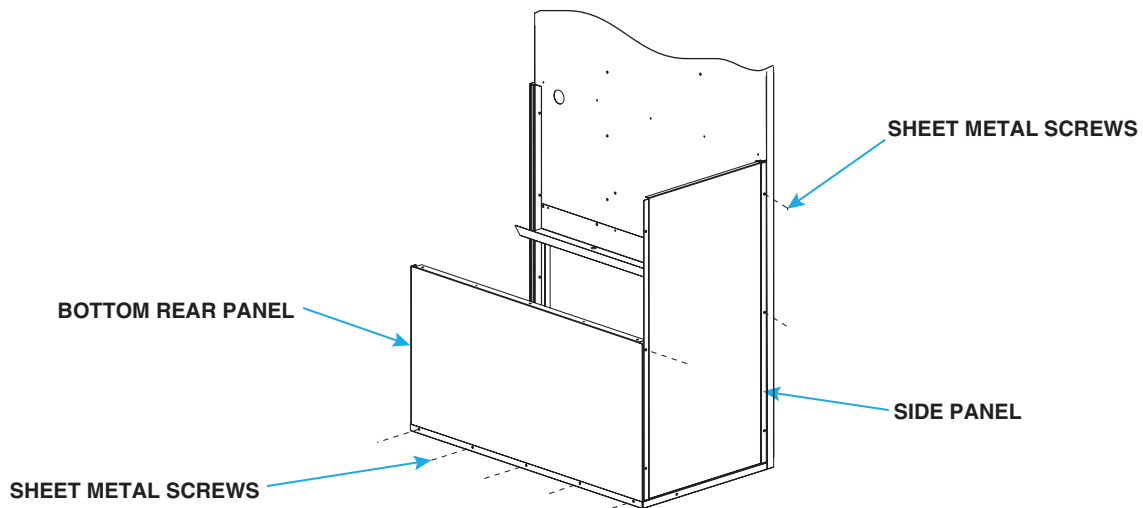


Figure 13. Install Side and Bottom Rear Panels

INSTALLATION—CONTINUED

Installation of Return Air Filter Cabinet on Side (Option CW4, CW5, or CW6) or Rear (Option CW7, CW11, or CW12) of Heater—Continued

Install Filter Cabinet with Vertical (Top) Inlet—Continued

3. Install rear top panel, top inlet panel, filter channel assembly, and corner braces and secure filter cabinet to heater cabinet as shown in **Figure 14**:
 - a. Secure rear top panel to side panel and to bottom rear panel installed in step 2b using sheet metal screws.
 - b. Secure top inlet panel to rear top panel and to heater cabinet using sheet metal screws.
 - c. Install vertical filter support as shown and secure support to top rear panel using existing screws.
 - d. Position filter channel assembly across inlet opening as shown and secure using sheet metal screws.
 - e. For structural support, install corner braces—one in bottom outer corner on door end of filter cabinet and one in top outer corner. Secure braces using sheet metal screw.

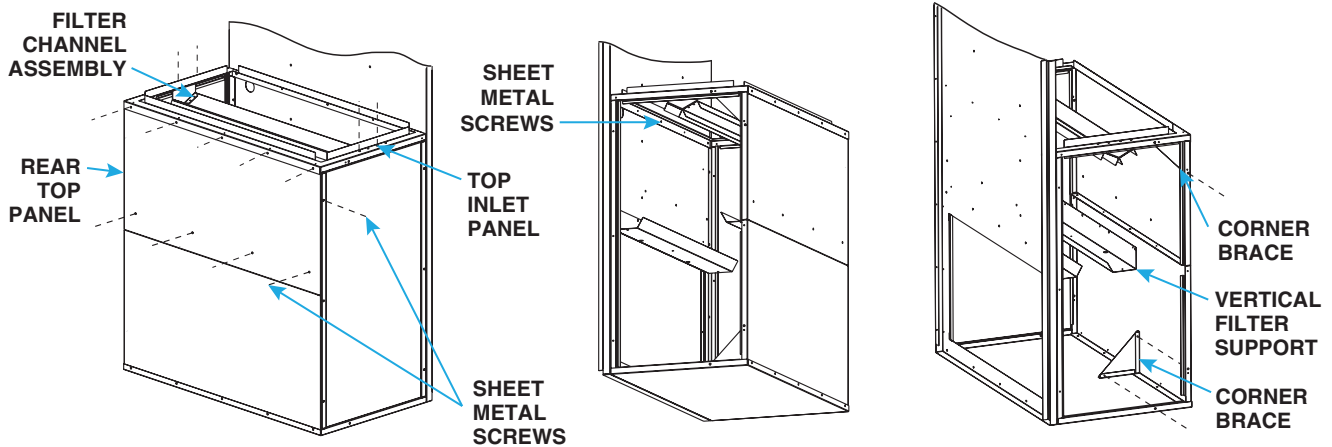


Figure 14. Install Vertical Inlet Filter Cabinet on Heater

4. Slide filters into filter rack channels.
5. Install door assembly on open end of filter cabinet and secure using sheet metal screws. Fasten door latches.
6. Connect ductwork (refer to **Dimensions** section for duct flange dimensions).

Installation of Return Air Filter Cabinet on Rear or Side of Heater (Option CW8, CW9, or CW10, Unit Size 150 or 200 Rear Inlet Only)

NOTE: Options CW8, CW9, and CW10 are shipped separately for field-assembly and installation. The cabinets are assembled as they are installed.

See possible configurations shown in **Figure 15**. Return air filter cabinet is shaded gray. Refer to **Table 7** for option package components.

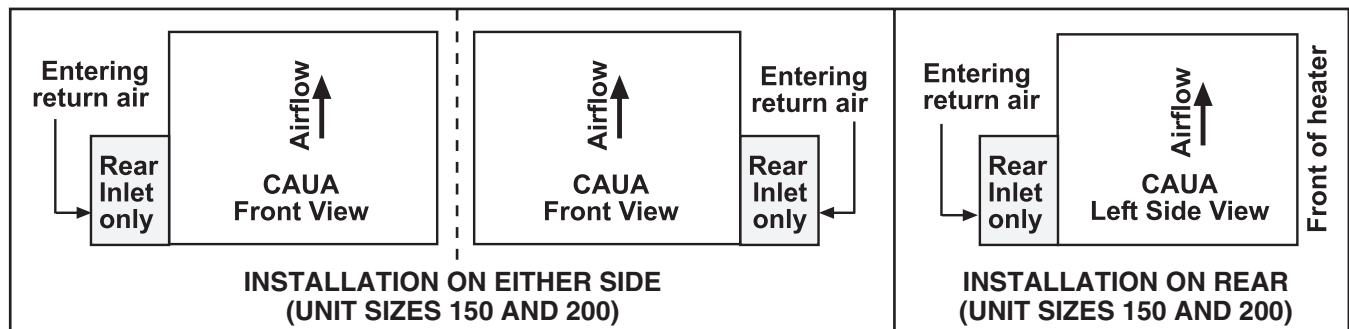


Figure 15. Option CW8, CW9, and CW10 Configurations

1. Install door channel, bottom panel, filter support, and filter support channel as shown in **Figure 16**:
 - a. Install door channel as shown and secure using sheet metal screws.
 - b. Remove existing screws from along bottom edge of heater cabinet. Position bottom panel against heater cabinet and as shown and secure bottom panel to heater cabinet using existing screws.
 - c. Position filter support channel (channel up) as shown and secure to filter support using sheet metal screws.

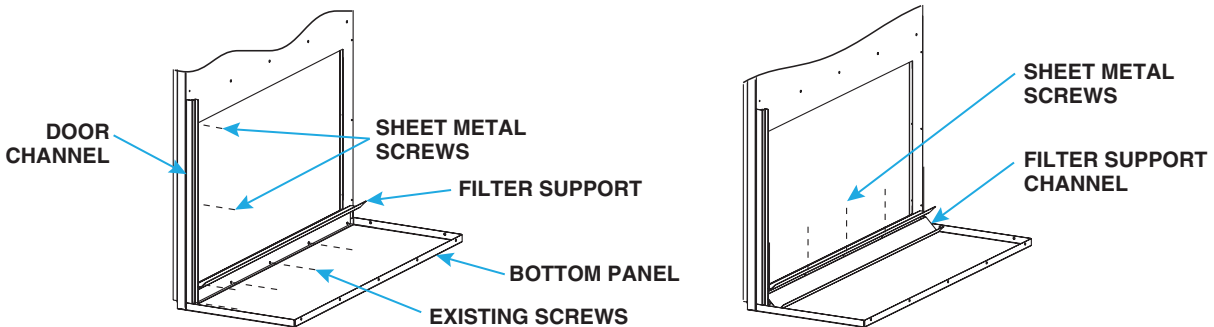


Figure 16. Install Door Channel, Bottom Panel, Filter Support, and Filter Support Channel

NOTE: Install a side panel on one end of the filter cabinet and a door assembly on the other end of the filter cabinet.

2. Install side panel, rear inlet panel, and filter channel assembly as shown in **Figure 17**:
 - a. Secure side panel to bottom panel installed in step 1b using sheet metal screws. Secure rear inlet panel to side panel and bottom panel using sheet metal screws.
 - b. Position filter channel assembly across inlet opening as shown and secure using sheet metal screws.

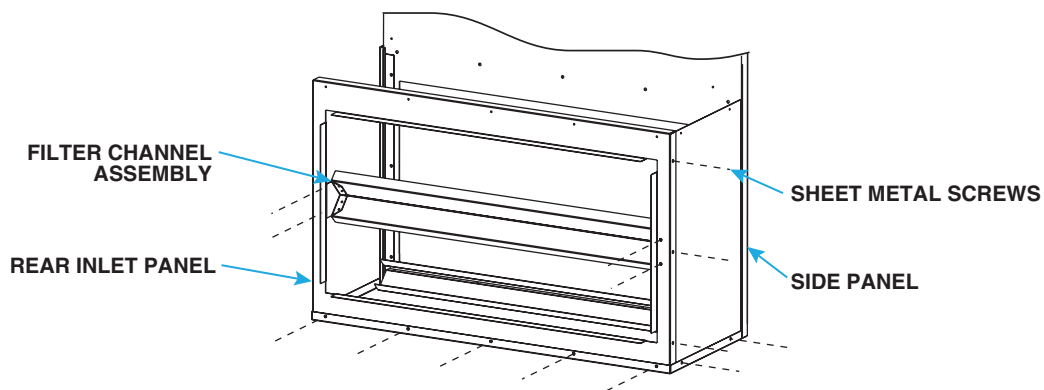


Figure 17. Install Side Panel, Rear Inlet Panel, and Filter Channel Assembly

3. Install top panel, filter support channel, and filter support and secure filter cabinet to heater cabinet as shown in **Figure 18**:
 - a. Remove existing screws above cutout area, position top panel and filter support as shown, and secure panel and support to heater cabinet using existing screws.
 - b. Position filter support channel (channel down) as shown and secure to filter support using sheet metal screws.

INSTALLATION—CONTINUED

Installation of Return Air Filter Cabinet on Rear or Side of Heater (Option CW8, CW9, or CW10, Unit Size 150 or 200 Rear Inlet Only)—Continued

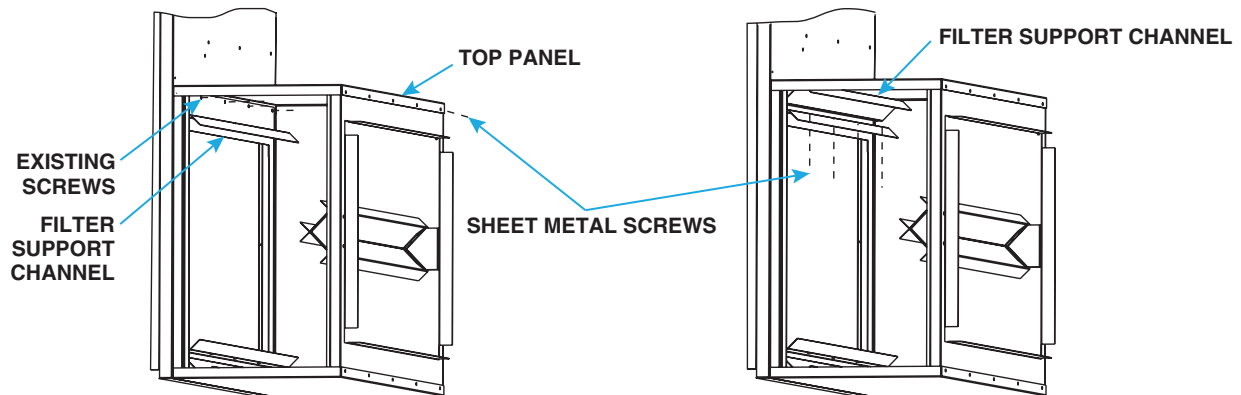


Figure 18. Install Rear Inlet Filter Cabinet on Heater

4. Slide filters into filter rack channels.
5. Install door assembly on open end of filter cabinet and secure using sheet metal screws. Fasten door latches.
6. Connect ductwork (refer to [Dimensions](#) section for duct flange dimensions).

Installation of Bottom Return Air Filter Cabinet (Option CW13, CW14, CW15, or CW16)

NOTE: Options CW13, CW14, CW15, and CW16, bottom return air filter cabinets with bottom duct openings, are shipped factory-assembly for field-installation. The bottom return air filter cabinet supports the heater and provides a filtered path for vertical return air.

See configuration shown in [Figure 19](#). Return air filter cabinet is shaded gray.

INSTALLATION ON BOTTOM (ALL UNIT SIZES)

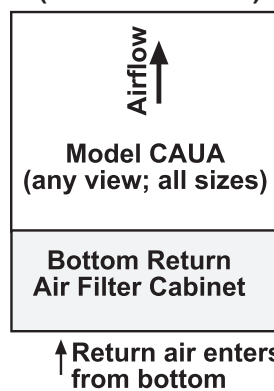


Figure 19. Option CW13, CW14, CW15, and CW16 Configuration

NOTE: Ensure that inlet air opening has been cut in bottom of the heater before it is placed on the filter cabinet. The cabinet's filter access doors may face either to the front or rear of the heater.

1. Position filter cabinet so that sufficient clearance on filter access side is allowed. Secure cabinet.
2. Install heater, setting it on filter cabinet, which is designed so that there is no mechanical connection between cabinet and heater.
3. Connect return air duct to duct flange on bottom of filter cabinet. Duct opening dimensions are shown in [Figure 20](#) and listed in [Table 10](#).

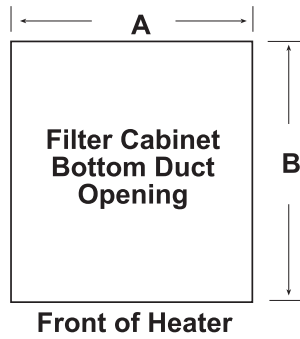


Figure 20. Bottom Return Air Filter Cabinet Duct Opening Dimensions (Refer to Table 10)

Table 10. Bottom Return Air Filter Cabinet Duct Opening Dimensions			
Dimension*	Unit Size		
	150, 200	250, 300	350, 400
Inches (mm)			
A	25-1/2 (648)	37-1/2 (953)	
B	32 (813)		46 (1168)

*See [Figure 20](#).

Heater Startup

When heater and ductwork installation is complete, turn ON electric power and gas, start up heater, and check for proper operation.

