

ACCESSORY KIT INSTALLATION MANUAL

FILTER FRAME KIT (S1-1FF0601 / S1-1FF0602)

FOR USE WITH MODELS: PCG4 / PCE4 / PHG4 / PHE4

GENERAL INFORMATION

The filter frame kit covers 2 – 5 Ton packaged units. Ensure that kit received is correct kit for application. The filter frame kit may be used for downflow or horizontal air flow and with or without an economizer. The kit accommodates a 1" or 2" thick air filter.

TABLE 1: Kit Model Numbers

MODEL	EQUIPMENT
S1-1FF0601	AC 2 – 3.5 Ton
	HP 2 – 3 Ton
S1-1FF0602	AC 4 – 5 Ton
	HP 3.5 – 5Ton

1. The following list details the parts included in this kit. Inspect the kit to ensure that all listed parts are included.

TABLE 2: Kit Parts (See Figure 1.)

ITEM	QUANTITY	DESCRIPTION
1	1	Top Filter Frame
2	1	Bottom Filter Frame
3	2	Side Rail
4	2	Filter Retainer Bracket
5	8	#10 X 1/2" Hex Head Screw
6	2	#10 X 1/2" self-tapping Hex Head Screw

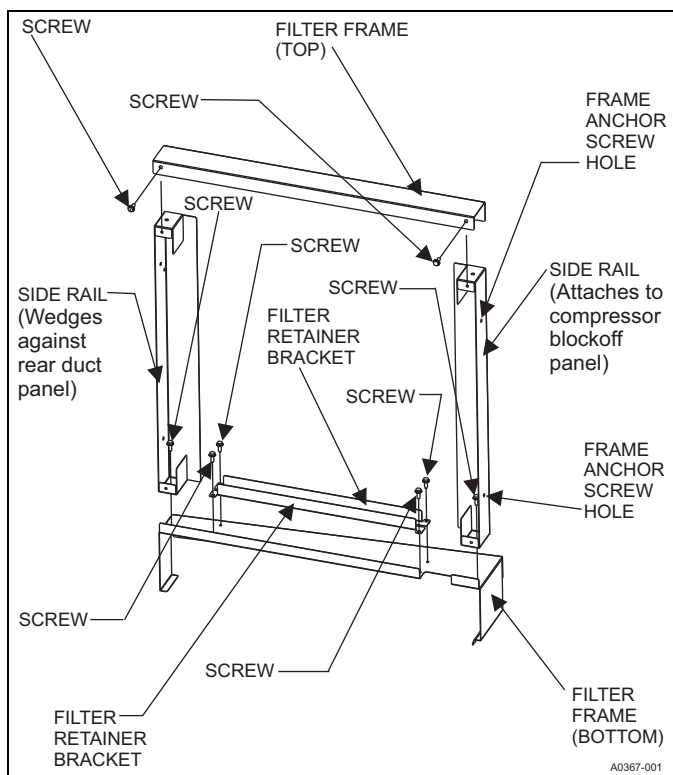


FIGURE 1: Filter Frame Kit Assembly

2. Layout the frame pieces before assembly to ensure that all necessary pieces are included.

NORMAL INSTALLATION

NOTICE

If Downflow Economizer is being Installed in the unit, do not accomplish the Normal Installation procedures. Instead, accomplish the Secondary Installation procedures at the end of this document.

NOTICE

The Normal Installation procedures are to be used when a downflow economizer is not in place. The Normal Installation procedures can also be used with horizontal flow economizers, when filter access panel is unobstructed. A 1" or 2" filter can be used in accordance with the Normal Installation

Install filter and frame kit as follows:

1. Verify that power to unit is off.
2. Remove filter access panel from unit. See Figures 2 and 9.

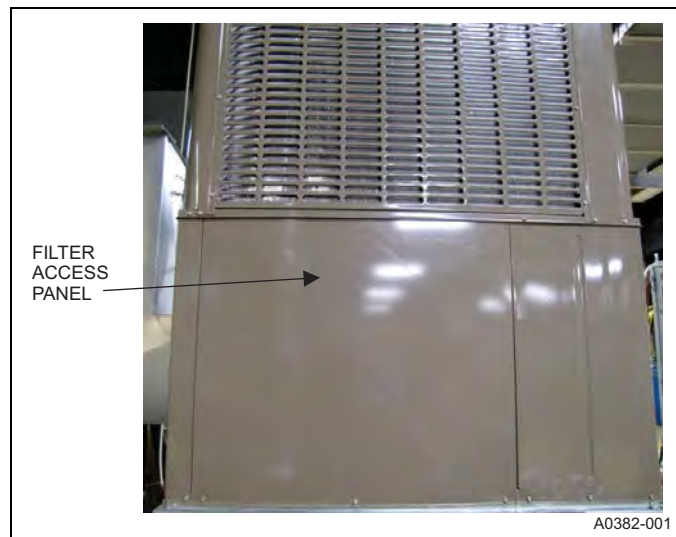


FIGURE 2: Filter Access Panel

3. Place bottom of filter frame in mounting position with larger end to right toward compressor block off panel. Insert downward flange into drain pan ledge for support. See Figure 3.



FIGURE 3: Filter Frame in Mounting Position.

4. Assemble top piece of filter frame to left side rail by sliding side rail into U channel of top filter frame, and install top screw as shown in Figure 4.

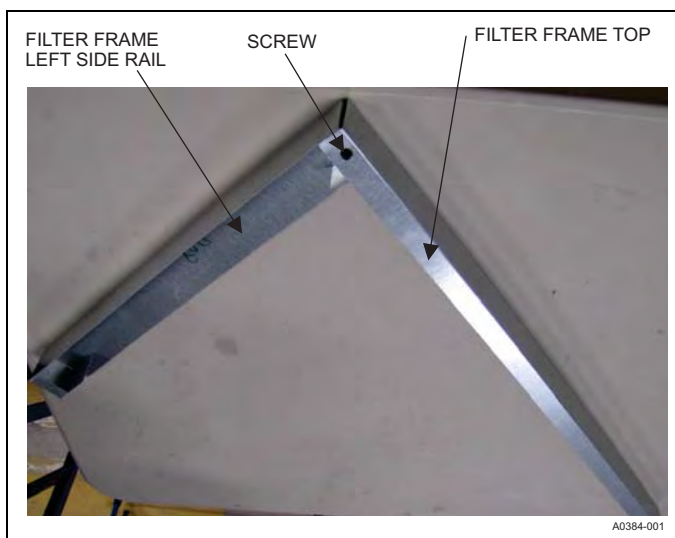


FIGURE 4: Assembly of Left Side Rail and Filter Frame Top

5. Place lower part of left side rail against filter frame bottom as shown in Figures 1 and 5. Install screw securing left side rail onto filter frame bottom piece.

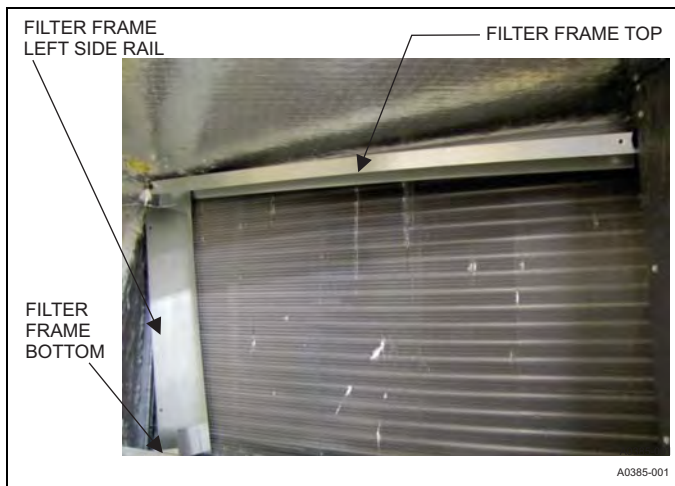


FIGURE 5: Assembly of Left Side Rail and Filter Frame Bottom Piece

6. Assemble top piece of filter frame to right side rail by sliding side rail into U channel of top filter frame, and install top screw. Place lower part of right side rail against filter frame bottom as shown in Figures 1 and 6. Install screw securing right side rail onto filter frame bottom piece.

NOTICE

The filter frame should be snug within the unit. There should be no visible gaps present between perimeter of filter frame and unit.

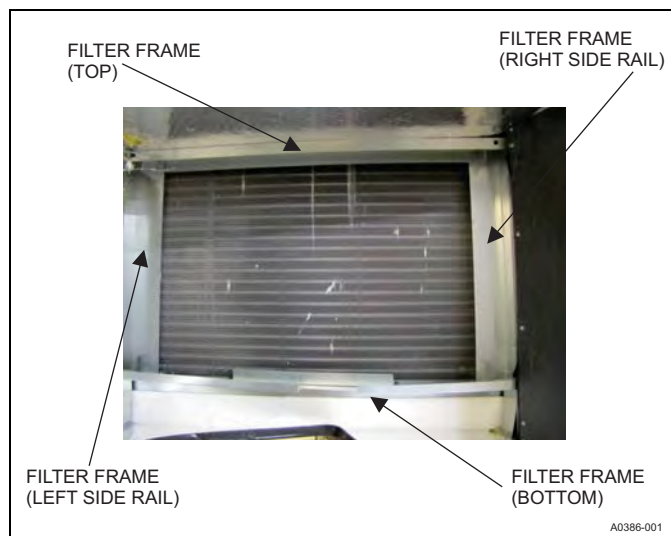


FIGURE 6: No Gaps around Filter Frame Perimeter

⚠ WARNING

Drilling into the compressor compartment should be avoided due to danger of drilling into and puncturing any nearby refrigerant lines. To anchor right side rail of filter frame to the compressor block off panel, self-tapping screws should be used.

NOTICE

Step 7 is to be completed only on units which are not shipped with a factory installed filter frame assembly. If a factory installed filter frame is present, existing holes should be used for attaching the filter frame to the compressor block off panel.

7. Locate two anchor holes in right side rail so that holes can be used as a template on compressor block off panel. See Figure 1.

⚠ WARNING

Verify clearance for screw locations behind compressor block off panel before installing screws.

8. Install two 1/2" long self-tapping #10 screws, and secure the right side rail of the filter frame to the compressor block off panel as shown in Figure 7.

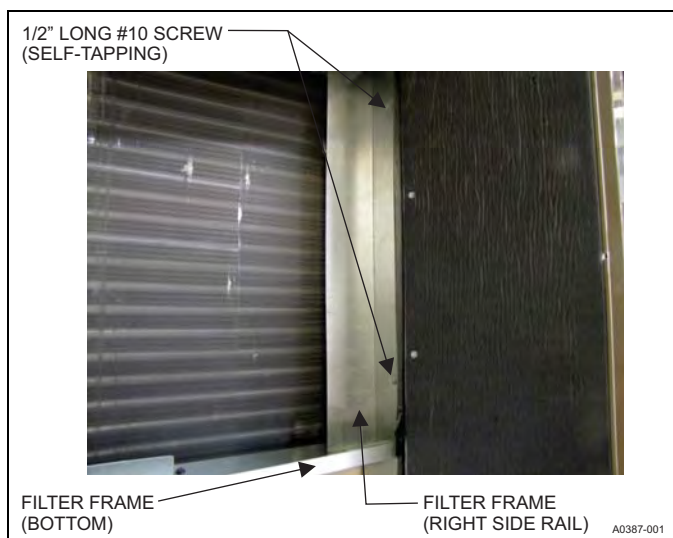


FIGURE 7: Anchor Screws Secure Filter Frame to Compressor Block off Panel

9. Install one or both “L” brackets (provided with kit). Verify thickness of filter being used. For normal Installation, use a 1” or 2” filter.
 - a. For 1” filter, use first “L” bracket to support filter from behind and second “L” bracket to support filter from front.
 - b. For 2” filter only, use one “L” bracket to support filter from behind. Secure each end of “L” bracket to filter frame (bottom) with mount screw. See Figure 8.

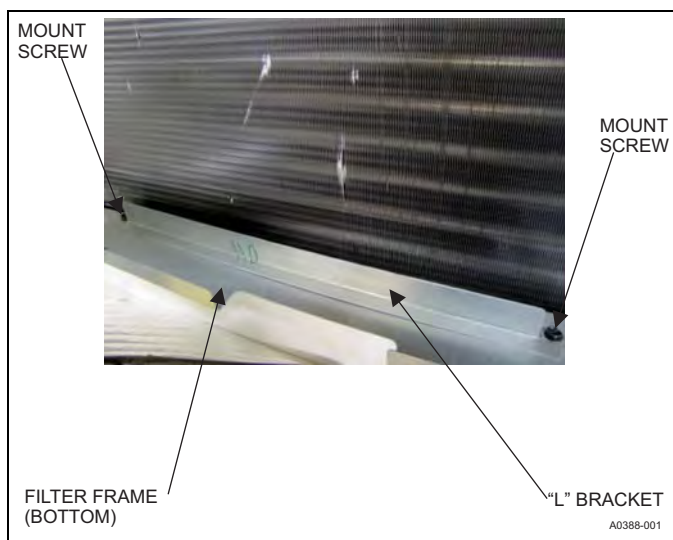


FIGURE 8: “L” Bracket Installed

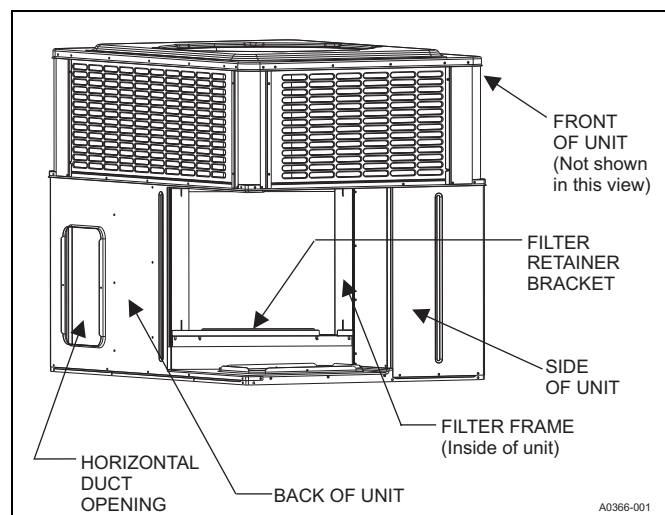


FIGURE 9: Filter Assembly Inside of Unit

10. Use a standard off-the-shelf air filter for both large and small filter frame sizes. Check filter for correct airflow rating from Table 3.
11. Install filter access panel on unit. See Figures 2 and 9.
12. Return to the unit Installation Manual to finish accomplishing unit installation procedures.

TABLE 3: Filter Usage

Unit Type	Unit Tonnage	Filter Opening Size	Minimum Air Velocity Rating Feet/Minute
AC/HP	2 Ton	20 X 20	288
AC/HP	2.5 Ton	20 X 20	360
AC/HP	3 Ton	20 X 20	432
AC	3.5 Ton	20 X 20	504
HP	3.5 Ton	20 X 30	336
AC/HP	4 Ton	20 X 30	384
AC/HP	5 Ton	20 X 30	480

Secondary Installation (When Downflow Economizer Installed)

NOTICE

If a downflow economizer is being Installed in the unit, the downflow economizer blocks access through the filter access opening which normally allows filter change out for the unit. The Normal Installation procedure in the first part of this document can not be accomplished because the downflow economizer must be installed before the filter frame is installed. The Secondary Installation procedure is accomplished by installing the filter frame through the horizontal duct opening on the back of the unit.

Install filter and frame kit as follows:

1. Verify that power to unit is off.
2. Remove the horizontal duct cover from the back of the unit. See Figures 2 and 9.

3. If the unit was not shipped with a factory installed filter frame, omit step 3, and continue procedure starting with step 4. If the unit was shipped with a factory installed filter frame, remove the filter frame from the unit before downflow economizer is installed. Remove filter frame as follows:
 - a. Remove two mount screws from the right side rail of filter frame. See Figures 1 and 7.
 - b. Remove attachment screw from right side rail and filter frame bottom piece.
 - c. Remove screw from top piece of filter frame and right side rail. Slide right side rail out from U channel of top filter frame, and remove right side rail from unit
 - d. Remove attachment screw from left side rail and filter frame bottom piece.
 - e. Remove left side rail and filter frame top piece as an assembly from the unit.
 - f. Remove bottom of filter frame from unit.
4. Install the downflow economizer in accordance with the kit installation instructions that come with the downflow economizer. Refer to 1199083-UA1.
5. After downflow economizer is installed, assemble the filter frame parts in the unit through the horizontal duct opening as follows:
 - a. Place bottom of filter frame in mounting position with larger end to right toward compressor block off panel. Insert downward flange into drain pan ledge for support. See Figure 3.
 - b. With parts outside the unit, assemble top piece of filter frame to left side rail by sliding side rail into U channel of top filter frame, and secure the two parts together by installing the top screw as shown in Figure 4. Inside the unit, place lower part of left side rail against filter frame bottom as shown in Figures 1 and 5. Install screw securing left side rail onto filter frame bottom piece.
 - c. Assemble top piece of filter frame to right side rail by sliding side rail into U channel of top filter frame, and install top screw. Place lower part of right side rail against filter frame bottom as shown in Figures 1 and 6. Install screw securing right side rail onto filter frame bottom piece.

⚠ WARNING

- Verify that no part of filter frame is in the path of the economizer dampers when they are in motion. Any contact with moving parts will cause heavy damage to the unit.
- Drilling into the compressor compartment should be avoided due to danger of drilling into and puncturing any nearby refrigerant lines. To anchor right side rail of filter frame to the compressor block off panel, self-tapping screws should be used.
- Verify clearance for screw locations behind compressor block off panel before installing screws.

NOTICE

The filter frame should be snug within the unit. There should be no visible gaps present between perimeter of filter frame and unit.

- d. Locate the two anchor screw holes in right side rail. If unit was shipped without a factory installed filter frame assembly, use the two anchor holes as a template on compressor block off panel. Install two 1/2" long self-tapping #10 screws, and secure the right side rail of the filter frame to the compressor block off panel. See Figure 7.

⚠ CAUTION

A 1" filter only must be used in installations with downflow economizers. A 2" filter can not be used.

6. Install both "L" brackets (provided with kit). Verify thickness of filter being used. For "Secondary Installation," use only a 1" filter.
 - For 1" filter, use first "L" bracket to support filter from behind and second "L" bracket to support filter from front. See Figure 8.

NOTICE

With a downflow economizer installed, any filters used must be able to be installed and removed through the horizontal duct opening. If a one piece filter can not be fit through the horizontal duct opening, a combination of smaller filters may be used to cover the filter opening width. It is recommended to use two 10x20 inch filters for small filter frames and three 10x20 inch filters for large filter frames.

7. Install a standard off-the-shelf air filter for both large and small filter frame sizes. Check filter for correct airflow rating from Table 3.
8. Install the horizontal duct cover on the back of the unit. See Figure 9. The horizontal duct cover access is now the filter access opening on any unit that has a downflow economizer.
9. Return to the unit Installation Manual to finish accomplishing unit installation procedures.