

Single and Multi-Round Cartridge Filter Housings

Installation guide



TABLE OF CONTENTS

**1.0 Single Cartridge Housing –
OD less or equal to 6" 3**

- Step 1: Preparation 3
- Step 2: Cartridge Assembly 3
- Step 3: Fitting Inspection 4
- Step 4: Final Assembly 4

**1.1 Single Cartridge Housing –
OD greater than 6" 5**

- Step 1: Preparation 5
- Step 2: Cartridge Assembly 5
- Step 3: Fitting Inspection 6
- Step 4: Final Assembly 7

2.0 Multi-Round Cartridge Housing 7

- Step 1: Preparation 7
- Step 2: Cartridge Assembly 7
- Step 3: Fitting Inspection 8
- Step 4: Final Assembly 8

1.0 SINGLE CARTRIDGE HOUSING – OD LESS OR EQUAL TO 6"

STEP 1. PREPARATION

Housing inlet and outlet have been capped to prevent contamination from outside housing, Figure 1.

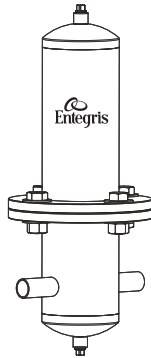


Figure 1.

1. Wet with isopropyl alcohol (IPA) wipes (recommended IPA >95%) to clean the inside and outside housing surface, Figure 2.

STEP 2. CARTRIDGE ASSEMBLY

1. Remove the bolts, nuts, and washers from middle of housing with appropriately sized wrench, Figure 2.
2. Carefully remove the top half of the housing, Figure 2.

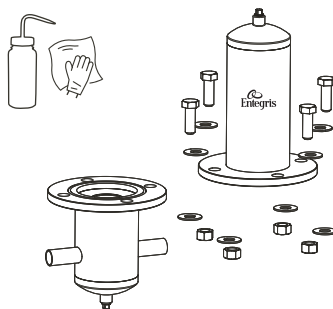


Figure 2.

3. Ensure the housing O-ring is seated properly on the cartridge O-ring grooves, Figure 3.

NOTE: O-ring misalignment will cause leakage.

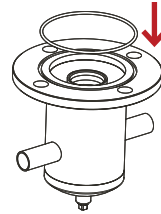


Figure 3.

4. Carefully remove the cartridge packing.
5. Wet the O-rings with deionized (DI) water or IPA to ease insertion of the cartridge into the housing cartridge slot, Figure 4.

CAUTION! Ensure cartridge open end has two O-ring seals (Savana UP Mini and Savana UP filter) or single O-ring seal (Savana UP HF filter).

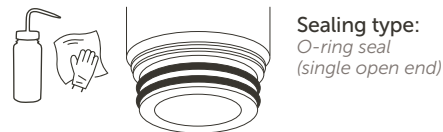


Figure 4.

6. Wiggle and press the cartridge with a little pressure because the cartridge O-ring is designed to fit tightly to ensure a better seal, Figure 5.

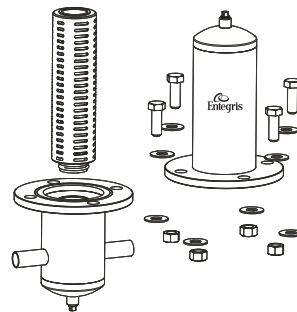


Figure 5.

CAUTION! Ensure the cartridge is properly aligned and fully seated, Figure 6.

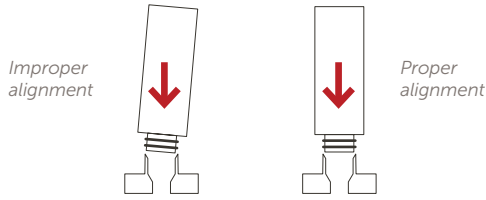


Figure 6.

STEP 3. FITTING INSPECTION

1. Verify the cartridge is fully inserted.
Refer to Figure 7 and ensure the cartridge is sitting properly on top of the cartridge slot.

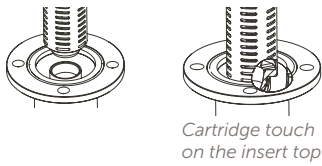


Figure 7.

2. If the cartridge is not fully inserted, the top housing flange will leave a gap between it and the bottom housing flange. In this case, return to Step 2. Cartridge Assembly and press the cartridge deeper until it is fully inserted, Figure 8.

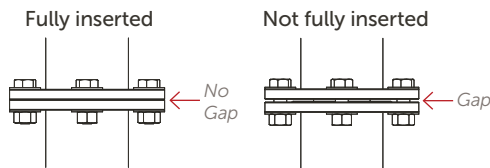


Figure 8.

STEP 4. FINAL ASSEMBLY

1. Close the housing top, tighten the flange bolts, nuts, and washers with appropriately sized wrench and recommended torque (refer to Table 1), Figure 9.

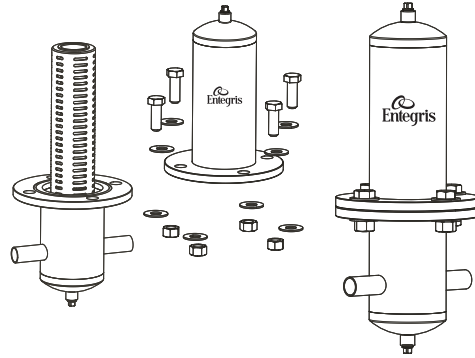


Figure 9.

2. Follow the bolting pattern shown in Figure 10.

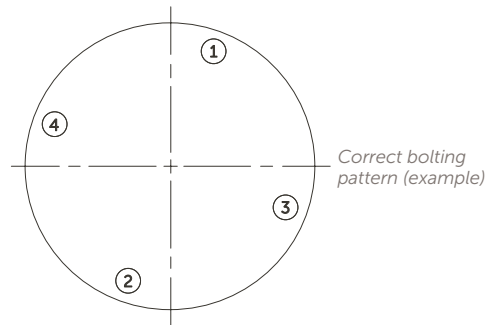


Figure 10.

NOTE: Metal housing and gas cartridges are shipped separately unless specified.

1.1 SINGLE ROUND HOUSING – OD GREATER THAN 6"

STEP 1. PREPARATION

Housing inlet and outlet have been capped to prevent contamination.

1. Clean the inside and outside housing surfaces with wet IPA wipes (recommended IPA >95%), Figure 11.

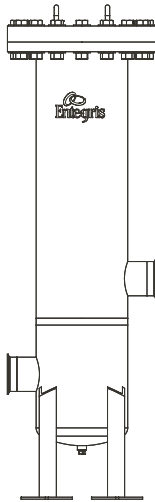


Figure 11.

STEP 2. CARTRIDGE ASSEMBLY

1. Remove the bolts/studs, nuts, and washers from top of housing flange with appropriately sized wrench, Figure 12.

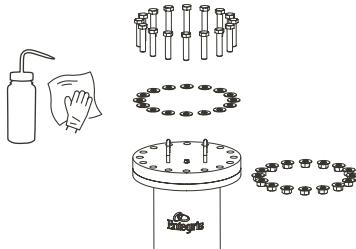


Figure 12.

2. Carefully remove the top flange of the housing and ensure the housing O-ring is seated properly on the cartridge O-ring grooves, Figure 13.

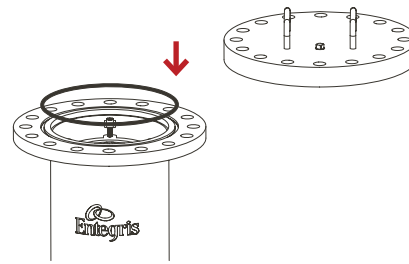


Figure 13.

NOTE: O-ring misalignment will cause leakage.

3. Carefully remove the cartridge packing.
4. Wet the O-rings with DI water or IPA to ease insertion of the cartridges into the housing cartridge slot, Figure 14.

CAUTION! Ensure cartridge open end has two O-ring seals (Savana UP Mini and Savana UP filter filter) or single O-ring seal (Savana UP HF filter).

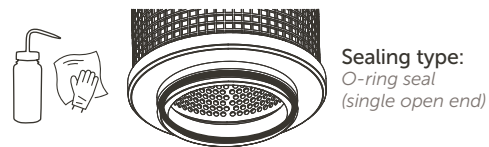


Figure 14.

5. Wiggle and press the cartridge down while holding around the circumference with a little pressure because the cartridge O-ring is designed to fit tightly to ensure a better seal, Figure 15.

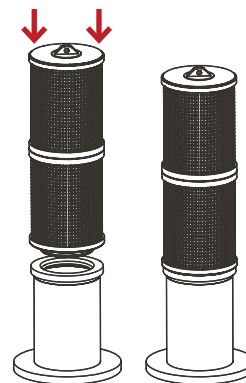


Figure 15.

CAUTION! Ensure the cartridges are properly aligned and fully seated to avoid leakage. A properly installed cartridge will be hard to wiggle. Figure 16.

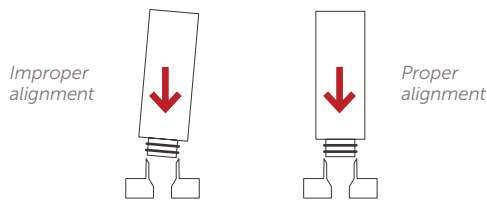


Figure 16.

6. Remove hold-down plate from packaging and place on top of cartridge. The plate should rotate over but not slide. Figure 17.

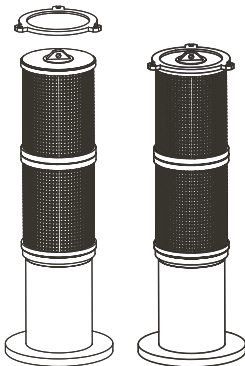


Figure 17.

7. Rotate and align recessed holes on hold-down plate with the tapped holes on shell tabs. Figure 18.

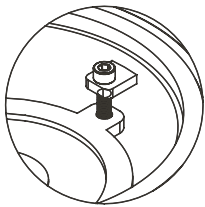


Figure 18.

8. Insert three M10 x 30 long screws through tapped hole on shell tab.

⚠ CAUTION! Tighten all three screws to same height to avoid vibration.

STEP 3. FITTING INSPECTION

1. Verify the cartridges are fully inserted.
 - Fully inserted cartridge will not wiggle.
 - Height from top of cartridge to head of screw should be approximately same for all three screws.

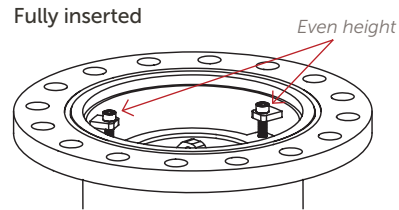


Figure 19.

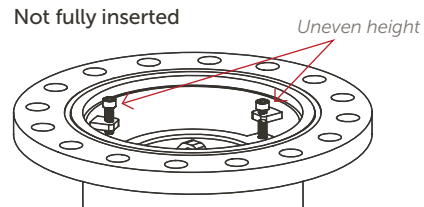


Figure 20.

- Ensure screw is contacting recessed hole of hold-down plate.

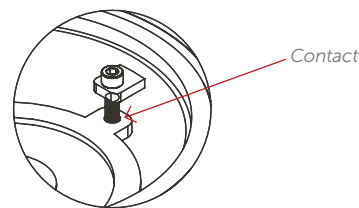


Figure 21.

STEP 4. FINAL ASSEMBLY

1. Close the housing top, tighten the flange bolts, nuts, and washers with appropriately sized wrench and recommended torque (refer to Table 1), Figure 23.

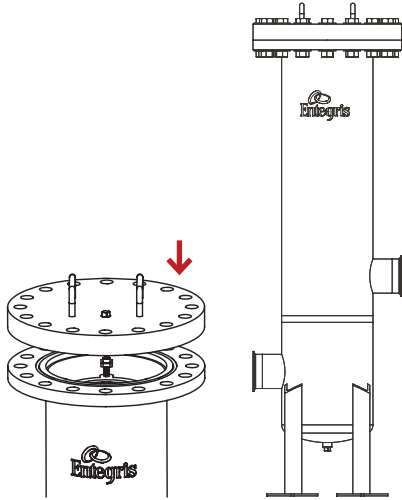


Figure 22.

2. Follow the bolting pattern shown in Figure 23.

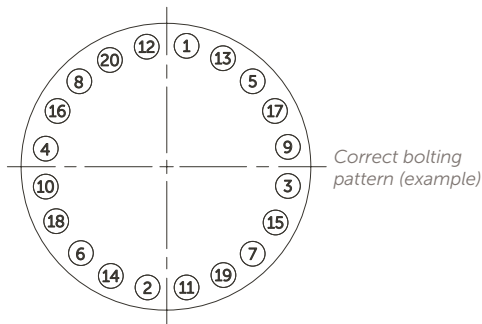


Figure 23.

NOTE: Metal housing and gas cartridges are shipped separately unless specified.

2.0 MULTI-ROUND CARTRIDGE HOUSING

STEP 1. PREPARATION

Housing inlet and outlet have been capped to prevent contamination.

1. Clean the inside and outside housing surfaces with wet IPA wipes (recommended IPA >95%), Figure 23.

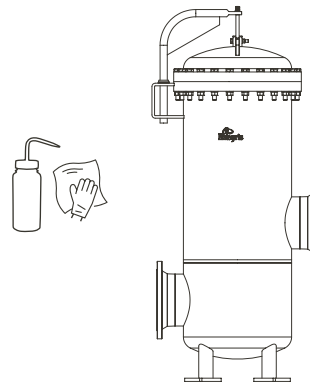


Figure 23.

STEP 2. CARTRIDGE ASSEMBLY

1. Remove the bolts/studs, nuts, and washers from top of housing flange with appropriately sized wrench, Figure 24.

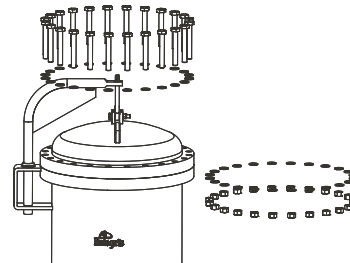


Figure 24.

2. Turn the bolt on the davit arm clockwise to lift the housing top flange, Figure 25.

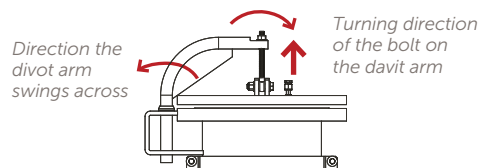


Figure 25.

3. Carefully swing the davit arm to move the housing top flange to the side.
4. Ensure the housing O-ring is seated properly on the cartridge O-ring grooves, Figure 26.

NOTE: O-ring misalignment will cause leakage.

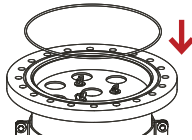


Figure 26.

5. Remove the wing nuts and washers from the cartridge hold-down plate, Figure 27.

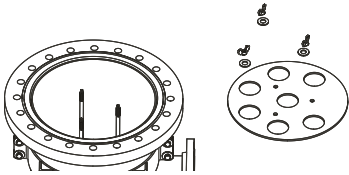


Figure 27.

6. Carefully remove the cartridge packing.
7. Wet the O-rings with DI water or IPA to ease insertion of the cartridges into the housing cartridge slot, Figure 28.

CAUTION! Ensure cartridge open end has two O-ring seals (Savana UP Mini filter) or single O-ring seal (Savana UP HF filter)

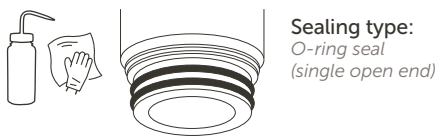


Figure 28.

8. Wiggle and press the cartridge with a little pressure because the cartridge O-ring is designed to fit tightly to ensure a better seal, Figure 29.

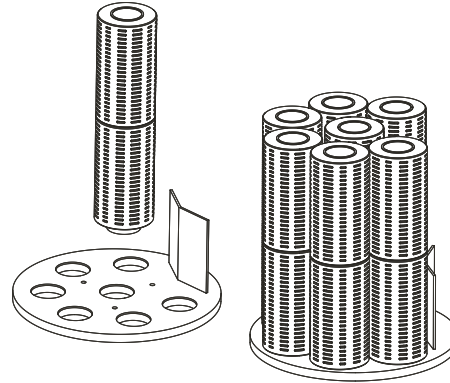


Figure 29.

CAUTION! Ensure the cartridges are properly aligned and fully seated. The upper end of each cartridge has a raised boss that must fit in the associated hole in the hold-down plate, Figure 30.

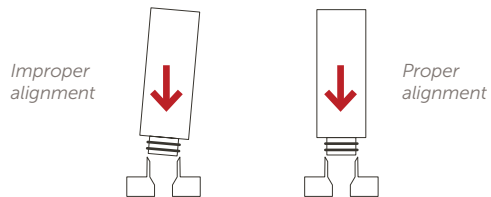


Figure 30.

9. Tighten the wing nuts and washers on the cartridge hold-down plate, Figure 31.

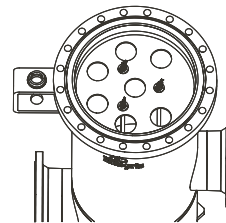


Figure 31.

STEP 3. FITTING INSPECTION

1. Verify the cartridges are fully inserted.
2. The cartridge hold-down plate will be tilted if any cartridge is not fully inserted, causing wing nut not to be flush with the hold-down plate surface, Figure 32. In this case, return to Step 2. Cartridge Assembly and press the cartridge deeper until it is fully inserted.

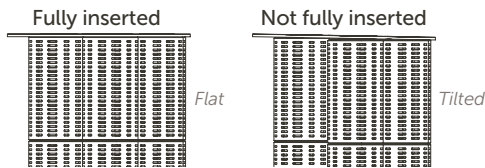


Figure 32.

STEP 4. FINAL ASSEMBLY

1. Push the arm to move the housing top flange back to the center, Figure 33.

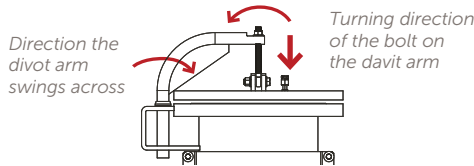
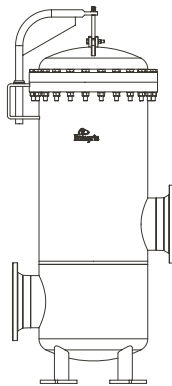


Figure 33.



2. Turn the bolt on the davit arm counterclockwise to lower the housing flange.
3. Tighten the flange bolts, nuts, and washers with appropriately sized wrench and recommended torque (refer to Table 1).

4. To prevent galling of the stainless steel flange closure bolts, we recommend using a thread lubricant, such as Never-Seez Pure Nickel Special or equivalent, on the threads of the mounting bolts. It is critically important not to get any of the lubricant on surfaces other than the bolt threads themselves.
5. Follow the bolting pattern as shown in Figure 34.

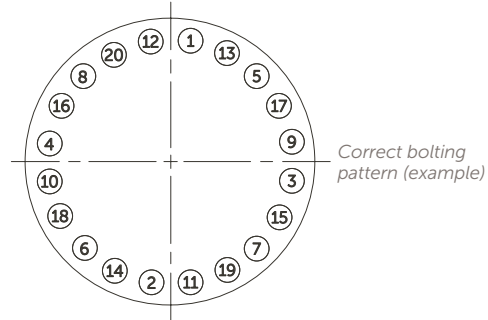


Figure 34.

NOTE: Metal housing and gas cartridges are shipped separately unless specified.

Recommended Torque for Lubricated Threads

BOLT SIZE	BASIC MATERIAL	SPECIFICATIONS	NM	FT-LBS
M16	SS 304	A2-70	135	100
M20	SS 304	A2-70	187	138
M22	SS 304	A2-70	360	266
M24	SS 304	A2-70	457	337
M27	SS 304	A2-70	670	494
M30	SS 304	A2-70	908	607
M33	SS 304	A2-70	1236	912

Table 1.

LIMITED WARRANTY

Entegris' products are subject to the Entegris, Inc. General Limited Warranty. To view and print this information, visit entegris.com and select the [Legal & Trademark Notices](#) link in the footer. Entegris does not warrant any failure in the case of customers using unapproved foreign components.

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the [Contact Us](#) link to find the customer service center nearest you.

TERMS AND CONDITIONS OF SALE

All purchases are subject to Entegris' Terms and Conditions of Sale. To view and print this information, visit entegris.com and select the [Terms & Conditions](#) link in the footer.



Corporate Headquarters

129 Concord Road
Billerica, MA 01821
USA

Customer Service

Tel +1 952 556 4181
Fax +1 952 556 8022
Toll Free 800 394 4083

Entegris®, the Entegris Rings Design®, and other product names are trademarks of Entegris, Inc. as listed on entegris.com/trademarks. All third-party product names, logos, and company names are trademarks or registered trademarks of their respective owners. Use of them does not imply any affiliation, sponsorship, or endorsement by the trademark owner.

©2022-2026 Entegris, Inc. | All rights reserved. | Printed in the USA | 4529-12099ENT-0726