

Most Often Asked Technical Questions

1. What is the operational life expectancy of the Teflon and Synthetic cartridge?
Facet Teflon & Synthetic separator cartridges are cleanable and reusable. They should be inspected and tested before reusing. Cartridge service life should not be extended beyond 5 years.

2. What is the shelf life expectancy of the Facet cartridges?
Most elements are a minimum of five years if sealed and in temperature controlled environment.

3. When do I changeout my filter/separator coalescer?
 - A. Coalescer elements must be replaced when:**
 1. Filter Membrane (Milipore®) Test indicates elements are not performing (Refer to Section 3).
 2. Differential pressure exceeds 15 psi or there is a sudden drop in differential pressure.
 3. Continuous sump samples indicate surfactants, microbial or solid contaminants.
 4. 12-month service life has expired and approved extension procedure is not accomplished.
 5. Free water detection test indicates elements are not performing (Ref. Section 3-3).

 - B. Coalescer Element Time Extension**
 Although normal coalescer element life is 12 months, the elements' life may be extended, providing all affected airlines approve the coalescer element life extension program. Station, fueling agent, FBO, etc., will submit proposed time extension program in writing. If accepted, airlines will provide written approval, which must be available for review.

4. Is there a minimum flow rate for filter, filter/separators?
No, however, special consideration must be given to change-out differential (See attached chart). The only exception is the "HP" style vessels, which should be operated within 15% of design flow.

5. What is the typical clean differential pressure drop?

Filter/separators	2-4 clean at ambient temp.
Micronic Filters	.5-4 clean at ambient temp.
2" Monitors	6-7 clean at ambient temp.
6" Monitors	3-4 clean at ambient temp.

6. Typical element change-out recommendations at maximum rated flow.

Filter/Separators	15 psi
Monitors	25 psi
Micronics	15 psi
"HP"	15 psi
Clays	Based on MSEP test

7. What is the rupture pressure for each element?

Filter/Separators	75 psi
Monitors	180 psi
Micronics	75 psi
"HP"	15 psi
Clays	N/A

8. What is the purpose of the Slug valve?
The slug valve stops the flow of product when excessive water is collected in the filter/separator sump. It works in conjunction with the float control valve. The slug can also be furnished with rate of flow control which is used to control flow through the filter/separator and with a check valve feature to prevent back-flow.

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9. What is the operation of a Water Probe?

The water probe detects the level of water electronically and then can open and close the auto water drain valve or slug valve, shut down pump and send alarm to control panel.

10. What is the reason for a Clay Treater?

The clay treater removes surfactants from fuel to allow filter/separators to perform properly. The surfactants will disarm the coalescer elements.

11. What is the function of the vessel heaters?

The heater keeps water from freezing in the sump and drain lines.

12. What data do you need to know to size a vessel?

Refer to Application Data Sheet in your catalog.

13. Which should be used, clay bags or canisters?

Canisters have gaskets that improve sealing and have less chance of bypassing. Bags, on the other hand, hold more clay and cost about 40% less.

14. Can clay bags be used in Velcon vessels?

Not usually. Velcon vessels are built similar to "M" series filter vessels except without adaptors for cartridge sealing. They use center rods, center seals, and end caps. There are conversion kits but are cost prohibitive. Two things to remember, this can be a tremendous selling tool for Facet vessels, but it does add additional cost.

15. What colors are used for what fuels?

Jet - Clear, AV Gas - Blue, High Sulfur Diesel - Red.

16. Can dye (color) in fuels be removed?

In most instances, "no."

17. Why use horizontal versus vertical housing?

Space and ease of maintenance.

18. Should a filter be installed upstream of a filter separator?

Depends on the application. If the customer is having a problem with solids you should definitely have a micron filter in front of your filter/separator. The micron filter is anywhere from a third to a fourth of the cost and has four times the surface area.

19. How do we test for water?

Aquaglo test (Jet Fuel only, Free Water). Carl Fisher measures total water.

20. What is the difference between free and entrained and dissolved water?

- 1. Free water is created when the fuel has all the water it can dissolve plus more. This extra water is then free water. Free water is usually not visible as a haze until you get above 30 to 40ppm free water. This free water is all that a coalescer or absorbent cartridge can remove.**
- 2. Entrained water: Discrete water droplets carried by a continuous liquid or gas phase when water is immiscible with the liquid. May be separated from the continuous phase by coalescing and gravity separation. Usually picked up in a system by condensation or a water washing used in process.**
- 3. Dissolved water is the water that is in solution or basically not visible in the fuel. The amount changes with temperature. Fuel holds more water as the temperature increases.**

21. What is the cleaning procedure for Synthetic Separators?

You can clean them in the same manner as the Teflon Screen separators. Submerge them in clean jet fuel and wipe them gently with a lint free cloth.

22. How do you perform the water test on Synthetic Separators?

First you should wet the cartridge with clean jet fuel. Then place the cartridge under a faucet or hose (not more than 3 inches) and let the water drop gently on the element. The water should bead and roll off the element.

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23. Can you convert a filter/separator to a monitor unit?
Yes. However, if the system pressure can exceed 115 psi, some type of surge suppressor would need to be installed upstream. Consideration should be given to relieve high-pressure build up.
24. Which monitor cartridges would you use when converting a filter/separator and why?
Generally you would use the FGI series monitor elements. There are several (good) explanations for using this series. Here are a few of the more common reasons. First, all f/s units have more coalescer stools than separators. Therefore, you would be able to achieve the flow rate that you are looking for. In some instances you could actually increase the flow of the vessel. Second, if again the flow can be met with either, you will find that the ones most readily available will be the FGI series.
25. Is the delta P gauge on a clay treater actually telling you anything?
Not really. This is a common misconception. The only true way to tell if the clay is working is to take a MSEP test. This test will be taken on the inlet and the outlet and compared. The reading from the outlet should be higher. A good quality fuel has a reading of 90 or better. The closer you get to 100 the better the fuel quality. If the fuel going in is 80 and the outlet is 80 or less, you would need to change out the clay.
26. How many pounds of solids does our MP series filter element hold?
Up to 3-5 pounds per 14" length dependent upon the micron rating and type of solids present.
27. With AVGAS, can you flow more through the same filter/separator?
Yes. Approximately 20% more through the same unit.
28. What is the recommended sealing torque on screw base cartridges?
30 lbs. Ft.
29. What is the mesh size and micron rating of Facet's Synthetic separator?
50 micron, 267 mesh.
30. What are the benefits of Facet's CIF Cartridge?
No metal components, less expensive while maintaining high efficiency of M Series elements and reduced disposal volume and cost.
31. What procedures need to be taken when requesting Similarity Data Sheets?
Requests go to Customer Service via fax or e-mail.
32. After conversion from F/S to monitor, if there are any holes left, which holes do you plug and how do you space the monitors?
Never an issue on monitor elements.
33. How much water can monitors absorb?
**FGI 614 holds 800 milliliters @ 50 ppm incoming.
FGO 614 holds 925 milliliters @ 50 ppm incoming.**
34. Does the size of the water droplets indicate the coalescing efficiency?
Downstream: Yes, the bigger the drops the more the fall. Saves Separator from having to do anything.
35. How is the gallon per minute of the coalescer calculated?
Flow per linear inch which is based on API test (Jet Fuel).
36. Can our immersion heaters be wired for a signal light?
Yes.
37. Which cartridges should be used in converting a F/S to a monitor?
The appropriate lengths can be used on either the coalescer stools or separator stools. The FG-0 monitor must be installed on the separator stools and the FG-I monitor must be installed on the coalescer stools unless the flow is reversed.

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38. Why are F/S being modified to use monitors?

To increase flow rate, less expensive, no single element test, no water detection sensor needed and assures dry fuel. Fail safe feature.

39. What are certificates of similarity?

To provide certificate of test data in similar type vessels using flow rates that determine the correct amount of coalescers and separators. Upgrading an older vessel to API 1581 current edition or changing from competitor vessel to Facet.

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