

THE CLARIFIER

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Synthetic Separators Now Available

Velcon successfully passed a Group II, Class B series of tests in a vertical test vessel with our long-lasting 85 series coalescers and new construction synthetic media separators. The separators in the test were model no. SO-644CSN. Flow rates for both the coalescers and separators are higher than previous Group II, Class B tests.

The synthetic separators are intended for those customers who want a low cost, disposable, low static charging separator. The synthetic separators can be cleaned a maximum of 2 times.

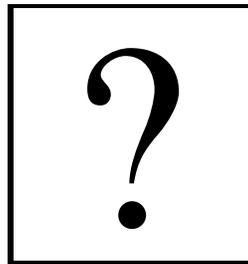
API qualified flow rates in vertical Class B vessels with the synthetic separators will range from 209 to 1670 USGPM. Thus, most of the Class B vessels in the field can be retrofitted with the synthetic separators.

If you have a specific vessel you want to convert to synthetic separators and would like a Qualification Data Sheet, contact Rick Waite at tel: 719-528-7250 (fax: 719-531-5690) with the applicable vessel info (vessel model no., desired flow rate, and presently installed qty. and model nos. of coalescers and separators). ☞

Coming Soon ... Watch For It ...

Our Next Limited Edition

Poster



NATA Show - March 24-27, 1997 Ft. Lauderdale

Velcon will be exhibiting its 10'x20' booth alongside Gammon Technical. The booth numbers are Velcon, 706 and Gammon, 708. New products, latest industry news, and a special poster surprise. Please join us! ☞

Anti-Icing Additive - a Filter's Viewpoint

Anti-Icing Additive (sometimes referred to as AIA, FSII - Fuel System Icing Inhibitor, EGME, the new Di-EGME, Prist, or other tradenames) is intended to be added to aviation fuel (either Jet Fuel, or Avgas) to prevent water from freezing in flight, which could fuel starve the engine(s). Sometimes the Anti-Icing Additive is injected upstream of the filters, and sometimes is injected downstream of the filters. A lot of aviation fuel never sees AIA.

We want to point out some precautions to take when the AIA is in the fuel upstream of the filters. If the fuel contains some amount of free water which is coalesced out of the fuel in a filter/separator vessel, the free water which collects in the sump will have a good percentage of AIA in the

water (we've heard as high as 25% or more). This water/AIA mixture, if left sitting in the sump too long (how long we don't know) can start working against the epoxy at the bottom of the vessel (or the aluminum in an all-aluminum vessel). Drain the vessel DAILY or more frequently if water is normally found in the sump to prevent epoxy bubbling away from the sump, which would result in rusting, or eating away the aluminum.

See "Anti-Icing"
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Frequently Asked Questions & Answers

Q What is the mesh size of Velcon's Teflon element?

A We use 200 mesh screen which starts off at approximately 72 microns - after teflon coating the aperture is approximately 68 microns

Q What is the flow rate of Velcon's ACI-62201C?

A 89 USGPM - We are in the process of preparing new data sheets which will provide flow rates for both our ACI and ACO elements.

Q Explain the procedure for reinstalling CDF elements.

A In the rare case that CDF elements are re-installed we always recommend to fit new 'o' rings

Visit Our Site on the Internet

Learn more about Velcon Filters by visiting our web site. We can be found at <http://www.velcon.com>. If you would like to place an order or send a message to us, our e-mail address is: vfsales@velcon.com. We're looking forward to hearing from you. ☞

ATA-103 Acceptance of Full Flow Fuel Monitors

In our July 1996 CLARIFIER, we listed the reasons for the increasing installation of monitor vessels versus the traditional filter/separator vessels on refueler and servicer vehicles for into-plane fueling.

The 22 July 1996 reissue of ATA Specification 103, Standards for Jet Fuel Quality Control at Airports, states: "All aircraft fueling equipment must have a Filter/Separator or a Full-Flow Fuel Monitor." "Full-Flow Fuel Monitors must meet IP "Specifications And Qualification Procedures - Aviation Fuel Filter Monitors With Absorbent Type Elements", latest edition." "Full-Flow Fuel Monitors, when used in systems with static fuel pressure in excess of 180 psig, must be equipped with a differential pressure device which will prevent excessive inlet pressure from rupturing elements in the event of complete blockage."

The previous edition of ATA-103 allowed the full-flow fuel monitors, but only "with the written approval of the airline, which must be maintained on file by the vendor." The latest ATA-103 removes this written approval requirement, effectively giving approval for the use of IP qualified monitors on into-plane fueling equipment. ☞

Anti-Icing

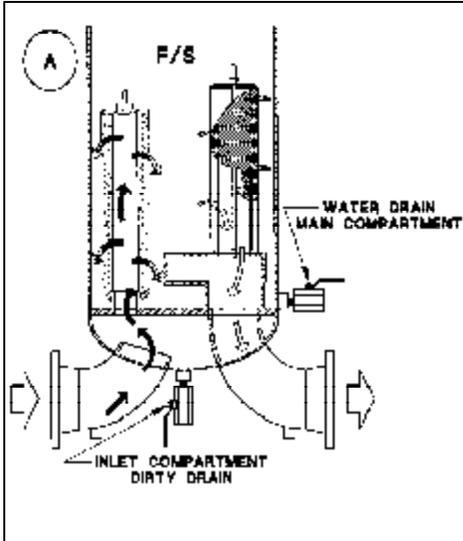
(Continued from page 1)

If the sump samples of fuel are hazy in appearance, with discolored water below (a brownish color, normally), it is a good bet that the coalescers are disarmed, and possibly by the AIA. If in doubt, have a single element coalescing test done on one of the coalescers. A clean appearing element can be disarmed.

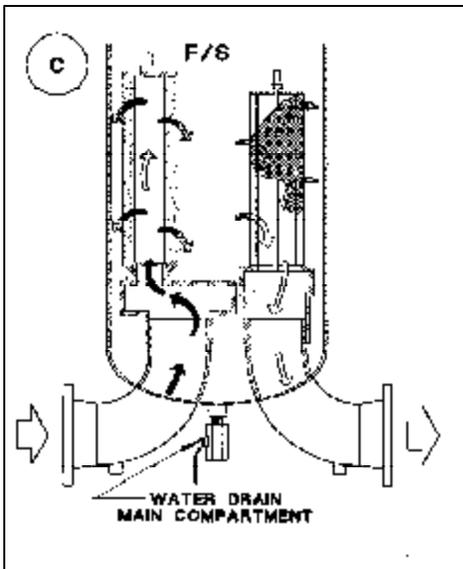
If you have monitor elements (e.g., CDF's, **Aquacon's**, or other water absorbing cartridges) in fuel containing AIA, our recommended changeout differential pressure is 15 psid. In fuel without AIA, or where AIA is injected downstream, the CDF's and **Aquacon's**® cartridges can go to 25 psid before changeout.

If a filter manufacturer is asked to recommend where AIA should be injected, the answer will always be downstream. If you have no choice and it is already in the fuel, please check the sump samples for appearance and drain DAILY (or more frequently)! ☞

Thanks to Walter Chartrand of Hammonds Technical Services for his review of this article.



Schematic A shows the F/S vessel with the coalescers mounted on a flat deckplate, and the separators on a manifold. The water drain is on the side. On older vessels, the water drain was also at the bottom, but it was offset from the center of the vessel.



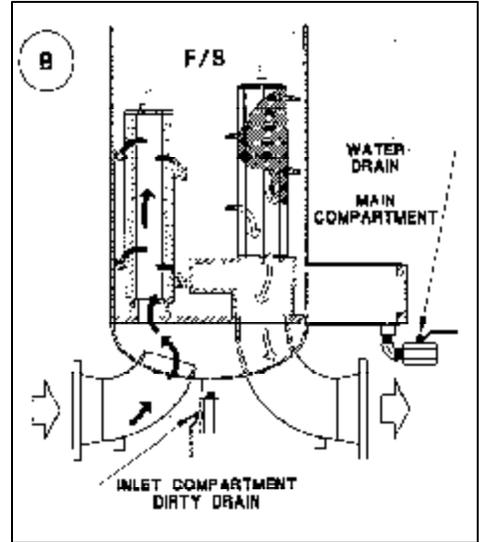
Schematic C shows the coalescers and separators mounted on manifolds. There is only one drain for these vessels.

F/S, Clay, & Micronic Drain Function

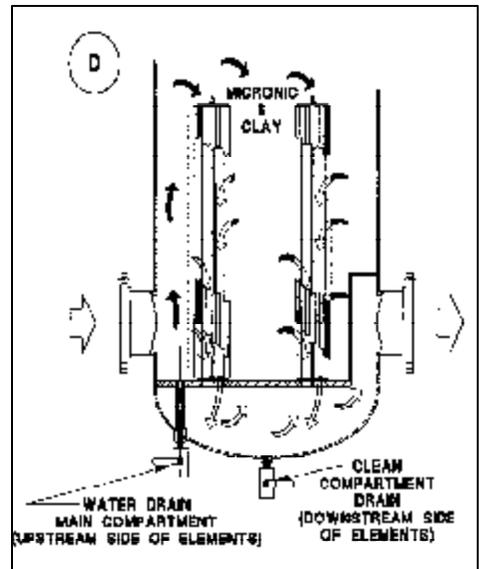
The diagram shows three different configurations for Velcon vertical Filter/ Separator vessels, and the configuration of our vertical clay and micronic vessels. These illustrations may help to clear up some confusion as to which drain is which. There have been cases where customers have continually drained water and particulate from a F/S vessel only to find out later they were draining the Inlet (dirty) chamber instead of the Water drain (main compartment).

When draining the F/S vessels, after completely draining the main compartment, it is recommended to drain a few gallons from the inlet (dirty) compartment. This ensures that there is no fuel remaining in the coalescers when removed from the 6000T or open end adapters. If not drained from inside the coalescers, the fuel can slosh from the elements onto the deckplate, making the deckplate/manifold cleaning procedure more laborious before installing the new coalescers.

Please phone Rick Waite at 719-531-5855 if you have any questions. ☞



Schematic B also shows the F/S vessel with coalescers on the deckplate and separators on the manifold. The water drain is at the bottom of the float control chamber at the side of the vessel.



Schematic D shows the arrangement for vertical clay treatment and micronic (prefilter) vessels. The drain at the middle of the vessel is the clean compartment (downstream) drain. The offset drain is for the main compartment, and is used to drain accumulated water and loose particulate, and for draining the main compartment for element changeout.

CDF Monitor Vessels

For a number of years the CDF Monitor Vessels that Velcon offered were fabricated entirely of aluminum (e.g., AHM-1230M; where the A was for aluminum, H for horizontal, M for Monitor, 12" nominal diameter, 30" long CDF's, and the M suffix is for Mobile equipment).

We now offer these vessels made entirely of aluminum; or with carbon steel shells (epoxied interiors) and aluminum manifolds. The carbon steel vessels are considerably less costly than aluminum and are not much heavier. Both the aluminum and carbon steel monitor vessels are built to meet the Institute of Petroleum (IP) Monitor design and performance specifications. The numbering system is the same as the aluminum vessels above without the A prefix.

Companies specifying monitor vessels on their refuelers/servicers will be pleasantly surprised at the lower cost of the carbon steel monitor vessels versus aluminum monitor vessels. ☘

If you know anyone who would like to receive *The Clarifier*, just fax in his or her name, company and address to:



We also welcome your comments and suggestions on topics covered in *The Clarifier*.

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