

THE CLARIFIER

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Static Charge Reducer

During the last year we have been advised that a few instances occurred where fueling operators heard “noises” coming from monitor vessels. Subsequent examination of the vessels and monitor cartridges indicate that electrostatic charging occurred.

Velcon Filters has developed a new device to reduce electrostatic charging – our SCR (Static Charge Reducer, patent applied for). Currently, this device is undergoing trials in Germany. The SCR fits on the end of a CDF® cartridge, which in turn is located in the cartridge plate. The SCR is approximately two inches long, and therefore will require a shorter element or an extended head cover. The device is similar to a lightning rod, and it ensures that the charge in the fuel is dissipated before the fuel exits the vessel.

The trials in Germany are going very well. Before the SCR was fitted the operator could hear the charging. The device immediately eliminated the noise from the electrostatic



charging.

API/IP are collecting data on electrostatic incidents, and any data or information should be forwarded to Phil Rugen of Shell, at Phil.D.Rugen@OPC.shell.com.

We will keep everyone informed on this issue through our Clarifier newsletter, or you may contact Velcon Filters directly for more information. 



Operating Water Absorbing Cartridges at Reduced Flow Rates

The importance of recording differential pressure and actual flow rate is often overlooked. If operating at, say, 7 psi differential at 40% flow rate and then flow rate is returned to 100% of rated flow, the differential pressure would be 25 psi. If the differential pressure is 25 psi at 40% rated flow, then at 100% flow the differential pressure would exceed 100 psi -- well above cartridge changeout.

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Advantages of Horizontal vs. Vertical Filter/Separators

A number of customers and system design engineers have asked what the advantages are of the horizontal end-opening filter/separator vessels versus vertical F/S vessels. The advantages are:

1. **Easier element changeout.** The operator does not have to climb up on a work platform or ladder to change out the elements. Also, the operator does not have to lift the rather heavy, fuel-laden coalescers vertically over the vessel lid. Internal cleaning of the vessel is also easier.
2. **Eliminates the chance of getting dirt downstream.** In the vertical vessels the dripping dirt-laden coalescers could be lifted over the open separator stools, resulting in dirt dripping into the downstream separator stools. This can't happen in the horizontal end-opening vessels where the separator stools are located at the top of the vessel.
3. **The vessel has to be drained completely before opening.** In a vertical F/S vessel, the operator sometimes starts the draining procedure, opens the vessel lid, and starts removing the coalescers while the fuel level is relatively high. Entrained dirt in the pleated media can be easily flushed out onto the deckplate, making vessel cleanup much more difficult. In the horizontal vessels, the vessel has to be drained completely before opening the lid (otherwise, the operator gets a fuel soaking! This should only happen once, at the most!).
4. **Dropping of hardware while installing the spider is less of a hassle** in the horizontal vs. vertical vessels. Once the elements are installed in a vertical vessel, if nuts and washers are dropped in the vessel while installing the end cap and spider hardware, the operator either laboriously fishes them out, or spends extra time locating additional hardware. If dropped in a horizontal vessel, they are easily retrieved.



*Vertical Filter/Separators
at a tank farm*



Horizontal Filter/Separator

Frequently Asked Questions & Answers

Q There are a large number of filter/separator vessels that have been (and are being) converted to the water absorbing cartridges (ACI-6xx01L/LTB) in place of the coalescers. Instead of meeting the requirements of API/IP-1581 for filter/separator vessels, these installed ACI water absorbing cartridges meet the API/IP-1583 "Monitor" Specification. ATA-103 allows either configuration for into-plane fueling.

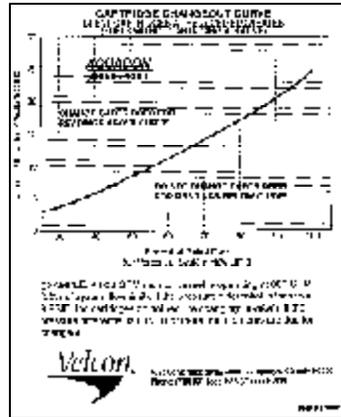
When the F/S with coalescers and separators is on the refueler/servicer, ATA-103 requires a water defense system. If this vessel is later changed to the ACI monitor cartridges, the water defense system is not needed. Should the water defense system be removed, or left in place?

A If the water defense system is removed, and a different sump cover is placed on the F/S vessel (Velcon can supply), then there will be no operational or inspection problems. However, if the water defense system is left on the vessel, there might be some uninformed Airline Inspectors that insist the water defense system be checked quarterly, per ATA-103. ATA-103 does not address this situation of the "redundant" water defense system on F/S vessels converted to API/IP-1583 water absorbing cartridges (i.e., the Velcon ACI cartridges).

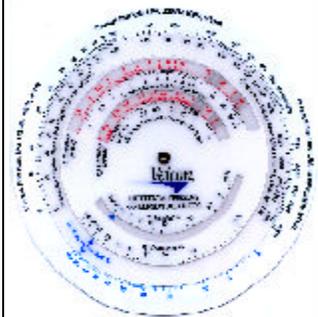
So, the customer has a choice: remove the water defense system when converting to the ACI water absorbing cartridges, or leave it on the F/S vessel and gamble that the Airline Inspector is knowledgeable or reasonable. Meanwhile, we'll see if we can influence the next rewrite of ATA-103 to address this situation.

Operating Water Absorbing Cartridges at Reduced Flow Rates

Velcon has developed two tools to assist operators in calculating the corrected differential pressure. These are the Differential Pressure Conversion Calculator, Form #1871, and the Cartridge Changeout Curve Label, Form # 1846. Please contact Velcon for more information on this important topic.

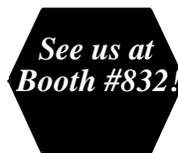


Form 1846 - Cartridge Changeout Curve Label



Form 1871 - DP Conversion Calculator

Ground Support Equipment Expo in Las Vegas



October 1 – 3, 2002
Las Vegas Convention Center,
Las Vegas, NV - USA



Exhibit Hall Hours

Tuesday, October 1.... 10:30am - 5:00pm
 Wednesday, October 2.... 10:30am - 5:00pm
 Thursday, October 3.... 10:30am - 2:00pm

www.gseexpo.com

Be sure to visit Velcon's booth at the Las Vegas Convention Center in early October at the GSE Show! Stop by booth # 832. This will be the place to sign up for a new F-35 poster if you haven't received one yet. Registration to the Expo is free. Pre-register at GSE's web site listed above (www.gseexpo.com).

Farewell Rick Waite...

As you may have heard already, on June 3, 2002, Rick Waite, Product Manager at Velcon Filters, Inc., announced his retirement. Although Rick had been talking about retiring in 2004, he decided to retire earlier than planned.

Rick joined Velcon Filters in 1975 and after 27 years he will be missed by his friends at Velcon and those in the Aviation Fueling Industry. Prior to joining Velcon, Rick graduated from the US Naval Academy in 1962, and served seven years in the Navy. After leaving the military, Rick worked for

Humble Oil & Refining Co. (Exxon) for several years as plant manager, dispatch supervisor, propane superintendent, and aviation operations advisor.



Rick and Lynn Waite

Rick also had been active in the ASTM Subcommittee J (Aviation Fuels) and was the editor of ASTM Manual 5, the Manual of Aviation Fuel Quality Control Procedures.

We hope that you will join us in wishing Rick a long and happy retirement.

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If you know anyone who would like to receive *The Clarifier*, fax their name, company and address to the address listed on the left.

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

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