

# Velcon®

1210 Garden of the Gods Rd., Colorado Springs, CO 80907  
Phone: (719) 531-5855 FAX: (719) 531-5690  
Toll-free: (800) 531-0180  
e-mail: vfsales@velcon.com / web site: www.velcon.com

## IMPORTANT OPERATING PROCEDURES

### Operation of Vessels Containing Water Absorbing Cartridges (ACO/ACI/CDF®) for Aviation Fuel

**\*\*\*\*\*CAUTION\*\*\*\*\***

***DO NOT USE WATER ABSORBING CARTRIDGES  
WITH PRE-MIXED JET FUEL  
CONTAINING ANTI-ICING ADDITIVES***

**NOTE: If pump discharge pressure can exceed 25 psi, do not use this cartridge unless pressure gauges are installed to measure the differential pressure.**

Recommended procedures\* to follow with water absorbing cartridges in a vessel are:

1. Reinforce quality control checks and diligently conduct water removal procedures at all locations in the fuel distribution system. This includes daily draining of all sumps, low points, and dead legs in the piping system.
2. Monitor differential pressure daily - if operating at reduced flow, record differential pressure and flow rate and calculate normalized differential pressure. (*See page 2, or Service Bulletin – Vol. 1, No. 2*). ***Change ACO, ACI, & CDF® cartridges when normalized differential pressure reaches 25 psid. Replace all cartridges if the normalized differential pressure has dropped 5 psid below the previous reading.***
3. Sample fuel and check for free water content using the Velcon Hydrokit® or other chemical method in accordance with your company's fuel handling procedures. Replace cartridges if the water content exceeds your company guidelines.
4. In converted filter/separator vessels where the deckplate or manifold strength does not meet the 15 bar (220 psi) strength required by the IP Monitor Spec. 1583, a differential pressure limiting device, set from 25-30 psid, should be installed across the vessel.
5. Have a spare set of water absorbing cartridges on hand, or available at a nearby Velcon Distributor, for the unexpected plug-up.

(Continued, over →)

**\*Please also check with your company's fuel handling guidelines and operating procedures.**

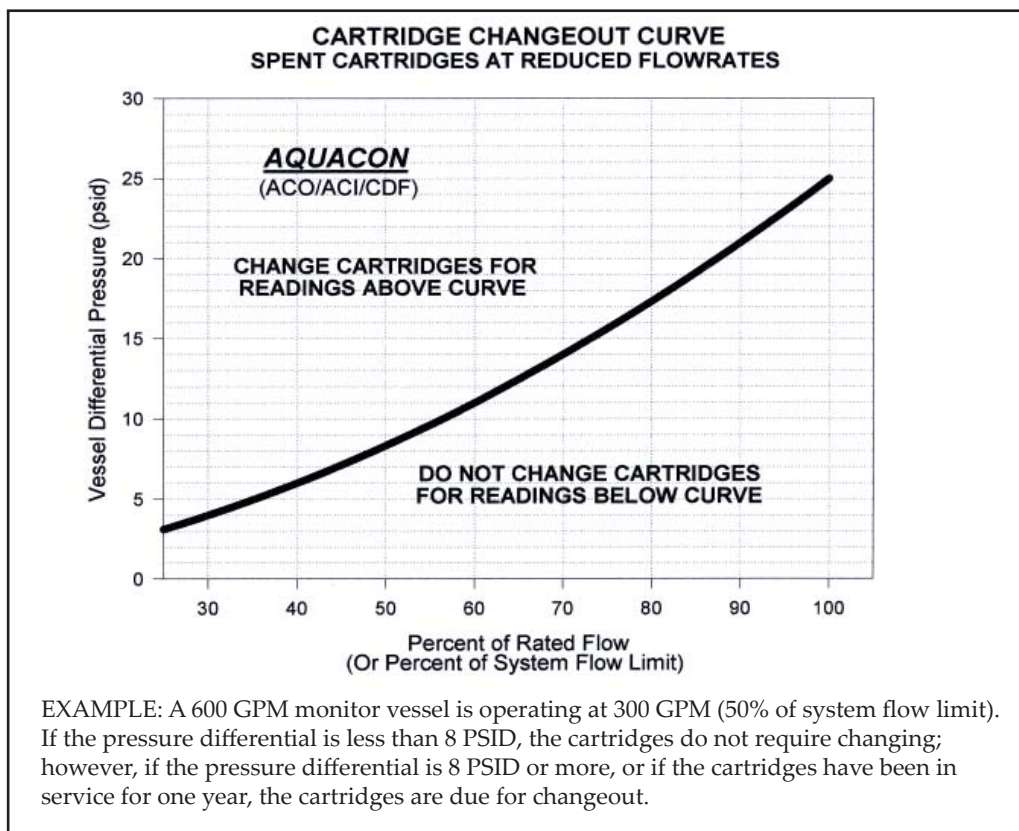
6. If fueling unit is operating consistently below 50% of rated flow then periodically check fueling unit at test stand and check DP at flow rate of 50% or higher and confirm corrected DP.
7. After changing cartridges circulate flow through vessel for at least 3 minutes, use millipores to check for fibers and also check hose end strainers.
8. If the cartridges are shut down by a water slug, ALL upstream and downstream piping should be checked and purged before resuming operations with a new set of cartridges. Any aircraft involved in fueling when a cartridge shutdown occurs should also be checked for the possibility of water reaching the aircraft. Check the tank to determine where the excess water came from, and purge the tank of any water before resuming operation.
9. Cartridges should not be dried and re-used. When water saturated media is dried, it may shrink and crack, leading to possible internal bypass.

**SERVICE LIFE**

Service life for all water absorbing cartridges, including two (2), five (5) and six (6) inch diameter cartridges, should be one (1) year, unless stated otherwise by your company's fuel handling procedures.

.....  
 • **WARNING: Absorbent-type monitor cartridges will NOT remove water from** •  
 • **fuel containing alcohol-blending agents (commonly called gasohol).** •  
 • **For removal of solids, please use Velcon particle removal filters specifically** •  
 • **made for gasohol. Consult your Velcon representative.** •  
 .....

For technical support, contact Velcon or your authorized Velcon distributor.  
See also [www.velcon.com](http://www.velcon.com)



Form 1846 - Cartridge Changeout Curve for **Aquacon**<sup>®</sup> cartridges  
(This form is available as a stick-on decal. Contact Velcon for more information.)