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UNITED STATES DEPARTMENT OF THE INTERIOR OFFICE OF AIRCRAFT SERVICES

TECH BULLETIN

INSPECTION

June 11, 2003

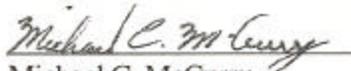
NUMBER: 03-03

DISTRIBUTION: OAS Area Directors, OAS Approved Inspectors, OAS Aviation Management Program Specialists, DOI Fleet Pilots

SUBJECT: Velcon Service Bulletins: Vol. 1 Number 2, Vol. 2 Number 3

PURPOSE: Fuel Quality Control

POLICY: Information contained in the Velcon Service Bulletins shall be disseminated to all Government and contracted fueling operations. Inspectors shall utilize the bulletins when reviewing refueling operations.



Michael C. McCurry
Chief, OAS Division of Technical Services

Attachments

Velcon Filters, Inc.

Service Bulletin

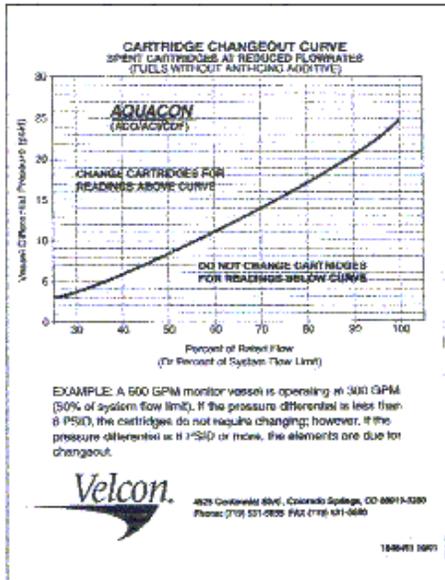
September 17, 2002

Vol. 1 Number 2

Operating Water Absorbing Cartridges at Reduced Flow Rates

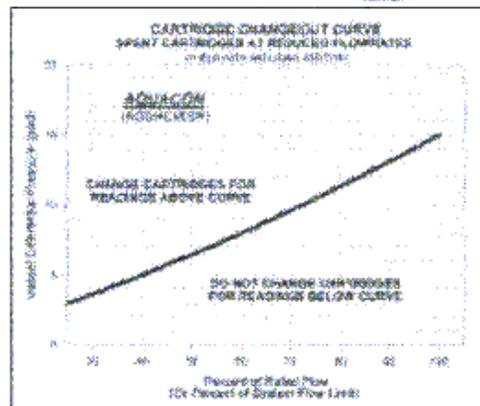
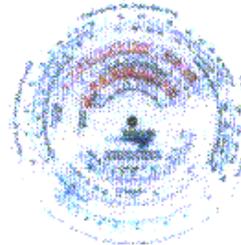
The importance of recording differential pressure and actual flow rate is often overlooked. If operating at, say, 7 psi differential at 40% flow rate and then flow rate is returned to 100% of rated flow, the differential pressure would be 25 psi. If the differential pressure is 25 psi at 40% rated flow,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

Velcon has developed three 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. In fuel containing anti-icing additives, use Form #1896. Please contact Velcon for more information on this important topic.



Form 1846

Form 1871 →



Form 1896

Velcon

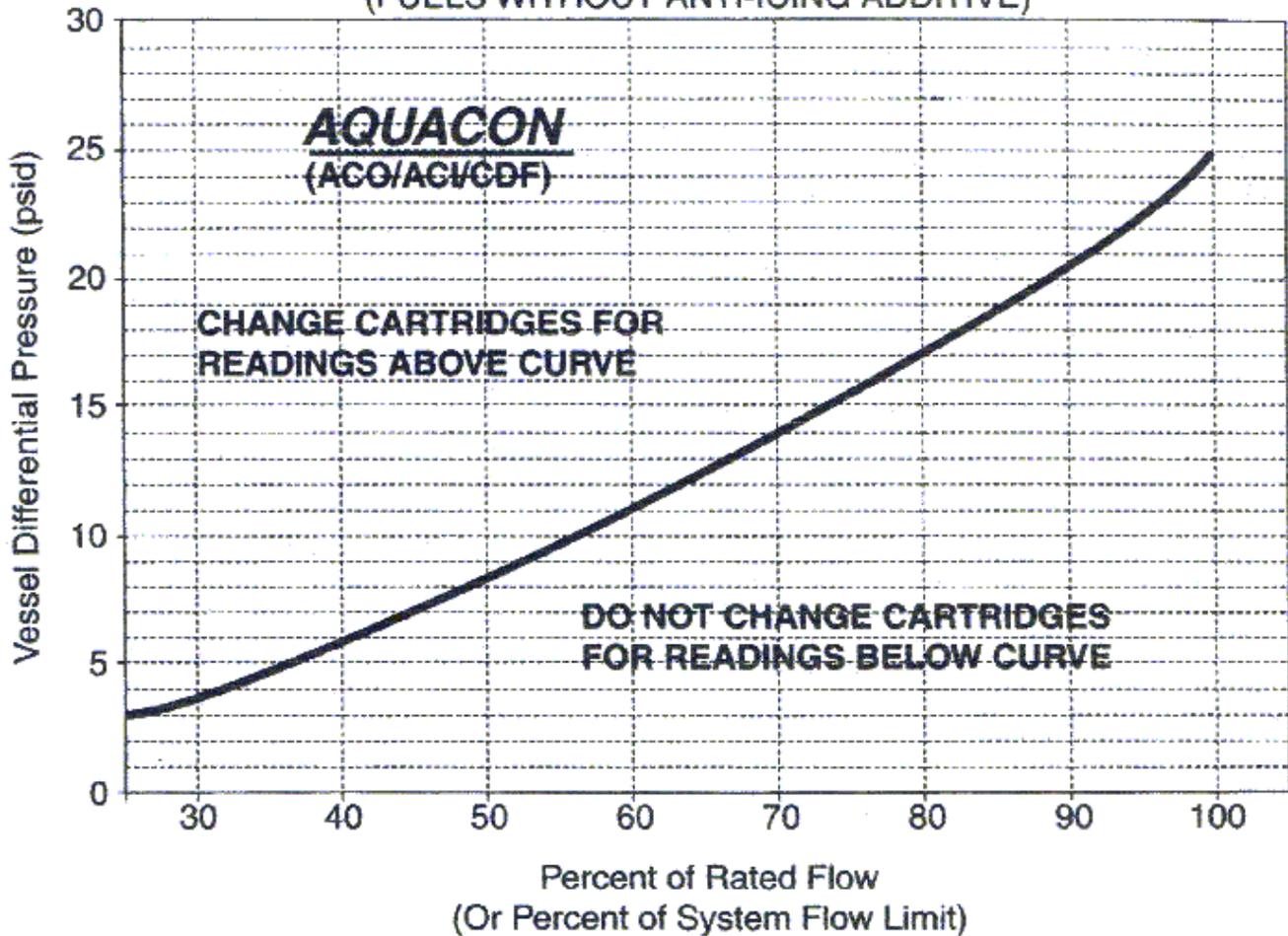
Service Bulletin is published by the Marketing Services Department of Velcon Filters, Inc.

Please address all comments or questions to Robin Mason.

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• E-mail: vf-sales@velcon.com

**CARTRIDGE CHANGEOUT CURVE
SPENT CARTRIDGES AT REDUCED FLOWRATES
(FUELS WITHOUT ANTI-ICING ADDITIVE)**



EXAMPLE: A 600 GPM monitor vessel is operating at 300 GPM (50% of system flow limit). If the pressure differential is less than 8 PSID, the cartridges do not require changing; however, if the pressure differential is 8 PSID or more, the elements are due for changeout.

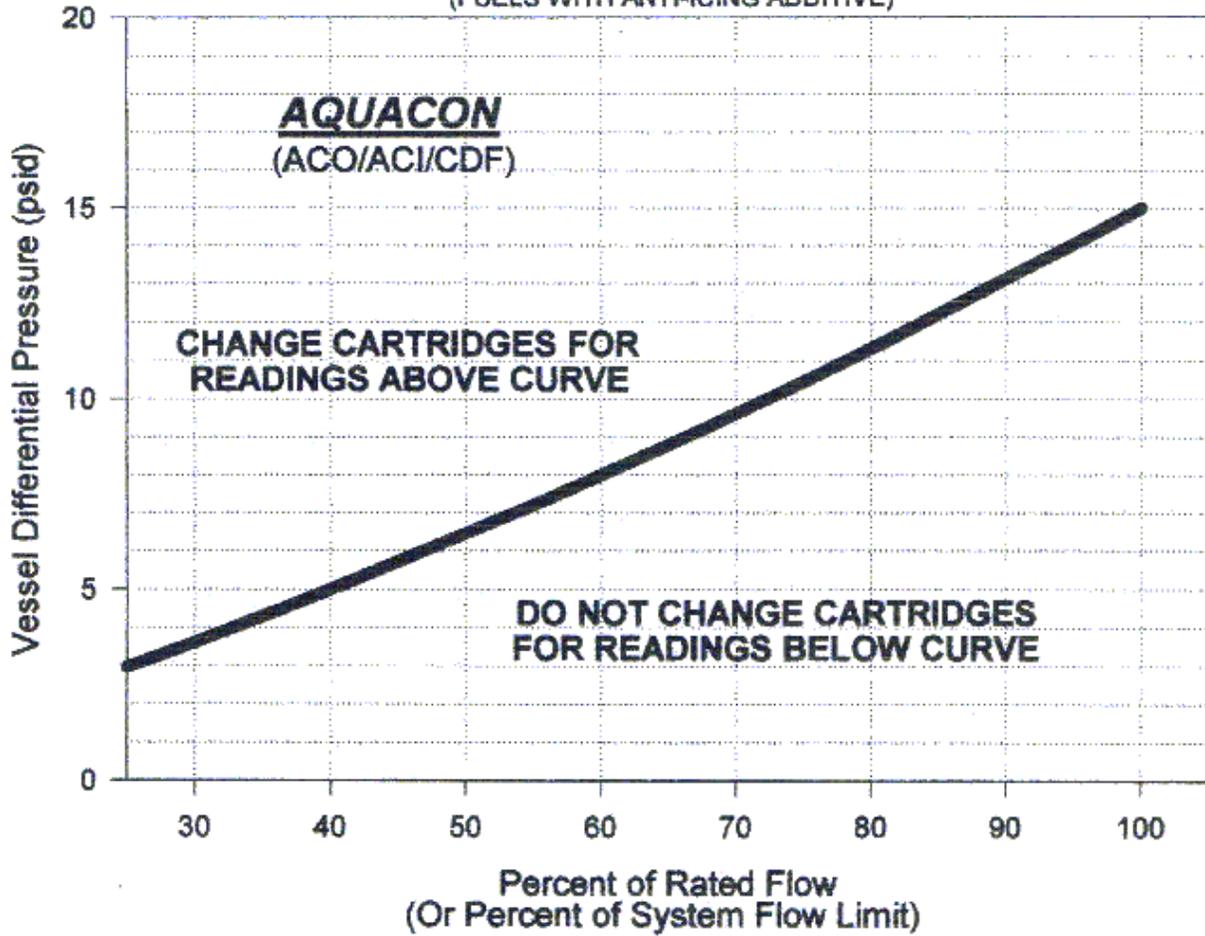
Velcon.

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1846-R1 10/01

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1896 09/02

Service Bulletin

May 22, 2003

Vol. 2 Number 3
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Service Life for Monitor/Water Absorbing Cartridges

On May 1, 2003 members of the joint American Petroleum Institute-Institute of Petroleum (API/IP) Aviation Fuel Filtration Committee, aviation fuel filter manufacturers, and other interested parties met to discuss the water removal performance of aviation fuel filter monitors. At this meeting, results of testing on two-inch monitors removed from service were presented by the four filter manufacturers of API/IP-1583 Qualified Products and Shell and ExxonMobil (work undertaken by them under contract to Institute of Petroleum). Everyone at this meeting agreed that the problem of water removal performance is common to monitors from **all** filter manufacturers. Data was also presented that showed that the problem of water removal performance did not occur at every airport.

The following statement has recently been issued by the Institute of Petroleum.

14th May 2003

WARNING

Following a technical review of test data obtained through IP-sponsored independent research and data provided by Facet International, Faudi Aviation, Racor-Hydrocarbon and Velcon Filters Inc. the aviation fuel filtration industry concludes there to be a problem with the water removal performance of water absorbent monitors.

Users of filter monitors should not consider these devices to be fail-safe. It is emphasized that appropriate aviation fuel handling procedures for detection and removal of water be diligently applied. The cause of water removal performance degradation in filter monitors is not currently known. An industry working group has been established to urgently assess what further research is required to rectify this issue.

(For this statement on the IP web site go to: www.petroleum.co.uk. Then click on left side Publications ▶ Publications Database. On that page enter "1583" and click "Submit" at bottom.)

As a result of this statement, Velcon Filters, Inc. recommends the following for all water absorbing cartridges:

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 corrected differential pressure. *(See attached Service Bulletin – Vol. 1, No. 2).* **Change ACO, ACI, & CDF[®] cartridges when corrected differential pressure reaches 25 psid (15 psid in fuel containing anti-icing additive.) Replace all cartridges if the corrected 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.

SERVICE LIFE

- A. If the above procedures are followed service life for CDF (2" monitor cartridges) is two years.
- B. If you are unable to follow the above procedures for 2" monitor cartridges then we recommend a service life of one year.

Alternatively, it may be possible to extend the cartridge life beyond one year by performance evaluations at Velcon's laboratory. **Before returning any elements** please contact Velcon Filters, Inc. at vfsales@velcon.com or Fax 719-531-5690 for procedures concerning returning cartridges.

- C. Currently, there is no data to indicate that 5" and 6" ACO and ACI cartridges exhibit performance degradation to the same degree that the 2" monitor cartridges do and we continue to recommend a maximum service life not to exceed two years. Testing will continue to further define service life for all water absorbing cartridges.



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