

THE CLARIFIER

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(The following service bulletin was published separately by Velcon Filters, Inc. on May 21, 2007 and is available on our web site: www.velcon.com/news.html)

Service Bulletin Vol. 6 No. 1: Migration of Super Absorbent Polymer (SAP) Media Downstream of Filtration

In "The Clarifier" newsletter, dated January 2007 we discussed migration of super absorbent polymer (SAP) media. The following is Velcon's current position on this subject.

Apart from the issue concerning use of water absorbing monitors/cartridges with FSII, Velcon Filters, Inc. has always believed that any migration of SAP from monitors would be extremely small, and our experience of supplying monitors over the last twenty years clearly supported this position.

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Announcing Velcon's New Jet Fuel Supply Poster!

This poster shows the Jet Fuel Supply System within the requirements of the API/IP 1581 5th Edition Specification. We hope this pictorial display will help you and your customers understand the "Fifth Edition" better. We introduced this poster at the Aviation Industry Expo in Orlando in March (see page 2), and the response was overwhelmingly positive. To order your poster today, please contact Velcon at vfsales@velcon.com or call us at 719-531-5855, x227 (Jackie Nunn).



Jet Fuel Supply Poster

New Plant Manager in Alabama

David Taylor, president of Velcon Filters, Inc. is pleased to announce that Rob Perkins has joined the Velcon team as Plant Manager for Velcon's Sylacauga, AL manufacturing plant. Rob has worked in the aviation, petrochemical and industrial filtration/separation



Rob Perkins

industry for almost 30 years. With a Mechanical Engineering degree, his previous job titles include Assembly Supervisor and Director of New Technology & Development. He has been a member of the board of the American Petroleum Institute, a member of the Coordinating Research Council and has also worked on the editorial staff of Filtration News. With Rob's immense experience in so many aspects of the filtration industry we are confident that he will contribute greatly to Velcon's future. Please join us in welcoming Rob and in wishing him success in this position.

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Velcon.



Portable Vessels for US Army TACOM

In February 2006, Velcon Filters, Inc. received a contract from US Army TACOM (Tank-Automotive Command) for the design and production of 50, 100, and 350 USGPM portable filter separators with protective frames, as shown in photo.



50, 100, and 350 USGPM TACOM Vessels, left to right

The vessels contain Velcon's I-420MM coalescers that meet MIL-PRF-52308J (latest revision) and newly redesigned SI-522 canisters. The excellent performance of these coalescers and canisters includes removing free water from JP-8 jet fuel down to 4 ppm. Other required tests include cold temperature exposure, shock, vibration, sand and dust exposure, diesel flow, element replacement time, hydrostatic pressure, electrical conductivity, ambient temperature water removal.

The vessels were completely designed using state-of-the-art 3-D model software. Weight, size and configuration were determined before prototypes were built. Vigorous research and development were implemented in order to engineer the vessels to meet the Army's strict weight, size and strength specifications.

Delivery and production of the vessels will start in mid 2007. Production will continue for five years with quantities varying each year. In addition to the military application for which these vessels were designed, the portability feature of the vessels make them attractive for several other diverse applications, such as for remote fueling of helicopters and general aviation aircraft. ➤

Update on Velcon's Recent Qualifications

Velcon Filters, Inc., an industry leader in the fuel filtration market, announced recently that its coalescer "I-420MM" passed the US Army's MIL-PRF-52308J requirement. Successful testing was conducted by Southwest Research Institute, an independent test facility, per TACOM of Warren, Michigan, to the requirements of MIL-PRF-52308J. Tests included both single element and full-scale tests. These tests evaluated the solids and water removal properties of the I-420MM filter/coalescer and Velcon's associated SI-522 separator canister. An additional performance test was conducted after shock and extreme environmental exposure.

The "J" version of MIL-PRF-52308 is based in large part on the commercial API/IP 1581 5th Edition filter/separator test specification. This upgrades the filter/coalescer to a higher performing design and removes the historical tie to MIL-F-8901 performance requirements.

Velcon Filters, Inc. also announces the successful completion of qualification tests to the "API/IP 1581 Specifications and Qualification Procedures for Aviation Jet Fuel Filter/Separators" as follows:

Vessel Model # HV1633, Category M, Type S, at a 240 USGPM flow rate, using 3 x I-633MMTB Coalescers and 1 x SO-436V5 Separators. This is Velcon's 15th successful completion of the API/IP 1581 5th Edition qualification requirements. ➤

AIE Show 2007

Velcon Filters, Inc. would like to thank everyone who stopped by our booth at the Aviation Industry Expo, in Orlando FL March 20-22. We hope to see you next year in Dallas! ➤



Velcon's booth at the AIE Show

Migration of Super Absorbent Polymer (SAP) Media Downstream of Filtration

(Cont'd from page 1)

IATA (International Air Transport Association) Fuel Monitor Task Force recently completed its report on the "Investigation of Super Absorbent Polymer (SAP) Migration in Commercial Aviation Turbine Fuels".

The IATA report's conclusion supports Velcon's stated position, as they found only trace quantities of SAP in on-board fuel filters compared with other contaminants.

Velcon Filters, Inc. continues to work with API/EI (Energy Institute, formerly IP) and the aviation industry to make improvements to our water absorbing monitors. During the next few months we will be refining our manufacturing process to significantly reduce the already extremely low levels of loose particles of SAP on the "clean side" of the manufactured cartridges.

In addition to new manufacturing techniques we will monitor SAP migration on an ongoing basis by analyzing membranes from effluent samples of production cartridges with copper sulfate water solution.

As mentioned previously, operators using monitors should use the following guidelines:

- Attention to housekeeping at all points in the fuel supply chain is critical
- After installing new cartridges, circulate flow through the vessel for 3 minutes and return fuel to

tank storage

- Monitor differential pressure and calculate what the DP would be at normal rated flow. Refer to Velcon's Form #1846. Velcon has also recently introduced a Flow Differential Pressure Module (FDPM) to the industry. Please see The Clarifier, Vol. 17 No. 1, dated June 2006 (www.velcon.com/doc/Clar0606.pdf), page 2). Also see Data Sheet #1966 (www.velcon.com/datasheet/1966FDPM.pdf).
- Do NOT use monitors if FSII (Fizzy®, Prist®, Di-EGME) is present in the fuel – see Velcon's Service Bulletin May 30, 2006: www.velcon.com/doc/Vol5-No1-05.30.06.pdf
- Consult with your company's fuel handling procedures and review Velcon's Operating Procedures: www.velcon.com/doc/1839.pdf

In addition to monitor cartridges, Velcon Filters, Inc. has recently introduced the VCA Series Contaminant Analyzer for continuously detecting solids and water in fuel. For more information please refer to The Clarifier, Vol. 18, No. 1, dated January 2007 (www.velcon.com/doc/Clar0107.pdf), page 3) and Data Sheet # 1964 (www.velcon.com/datasheet/1964VCA.pdf).

Question & Answer

Q What is the cause of very cloudy results when testing a fuel with the Hydrokit?

A When the Hydrokit goes cloudy, and the powder will not settle, that is an indication of surfactants in the fuel. This could be caused also by a cross contamination with low sulfur diesel fuel.

Importance of Water Defense Systems

Many fixed based operators and fueling locations are now switching back to using traditional filter water separators with coalescers and separators in place of water absorbing cartridges, especially when pre-mixed fuel is being filtered. In such cases, Velcon would like to remind everyone of the importance of a water defense system to insure that any water in the fuel stream is quickly detected. Recently a helpful article on this subject was also published by Gammon Technical Products, Inc. in their "GamGram".

The following excerpt is taken from *The Gamgram*, Number 57, February of 2007.

WE ALL MUST AGREE —
A WATER DEFENSE SYSTEM
IS ESSENTIAL

We continue to receive purchase orders for filter separators without a water defense system included. This is somewhat like having an automobile with no window to see where you are going. Customers always want a differential pressure gauge to tell them if the elements are plugged up with dirt but if they have no water defense system, water can collect in the sump without anyone knowing about it.

To read the rest of the article, go to www.gammontech.com/gg/gg57.pdf

Velcon Service Awards

Congratulations to these Velcon employees who have recently celebrated special anniversaries with Velcon:

20 Years

Benjamin G. Taylor (CO)
Peggy B. Bailey (AL)

10 Years

Denise M. Canfield (CO)
Brandon D. Welsh (CO)

5 Years

Tina M. Crowe (AL)
Marilyn D. Garrett (AL)
Kelly M. Harris (AL)
Steven D. Kelly (AL)
Theresa Lurns (AL)
Roland D. Roberson (AL)



Holiday Shutdown

Please note that Velcon will be closed the following dates in 2007 due to holidays.

Independence Day
July 4, 2007

Labor Day
September 3, 2007



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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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