

THE CLARIFIER

Volume 9 Number 1

February 1998

This issue of The Clarifier is dedicated in loving memory of Robert (Bob) Marting.

*For clean, dry fuel when you need it,
call us day or night*

When you urgently need solutions for aviation fuel quality problems, Velcon provides the answers. Call on our worldwide network of over 100 distributors. They draw on 30 years of Velcon experience to answer your questions, urgent or routine, about fuel quality, proper filtering procedures, and the right filters to do the job.

After business hours? Call Velcon headquarters and get Bob Marting's home phone number. Bob, our General Sales Manager, will do what it takes to ensure that you can deliver clean, dry fuel:

like the time he drove vital replacement filter elements to San Francisco Airport on Thanksgiving Day, to keep a Portland fueling operation running.



We can quickly locate and ship what you need from over 500 different cartridges and housings stocked at our four facilities. There are filtration products, qualified to commercial and military specifications, for every operation from major metropolitan airports to rural FBOs. Make sure you won't be shut down or grounded for lack of clean, dry fuel. For more information, contact your Velcon distributor, or call Bob Marting — day or night.

Velcon Filters, Inc.
P.O. Box 6828
San Jose, CA 95150-6828
Phone: (408) 436-6525
FAX: (408) 436-7612

velcon
FILTERS[®]

In 1988, Velcon ran this advertisement in many trade publications. It was true, Bob was available day or night (ask Sandy)!

It is with great sadness that we announce on Sunday, February 8, after a long illness, our good friend and associate Robert (Bob) Marting passed away.

Before joining Velcon, Bob served in the United States Navy in WW II and saw action at the beaches on D-Day. He was also a member of the San Jose Police Force where he served for 20 years and retired as a Captain.

Bob began his career with Velcon in San Jose, CA on August 24, 1964 as a Production Manager. Several years later he was promoted to Sales Manager and retired in 1995 as Vice President of Sales.

During his 32 years of service, Bob created many policies and procedures that remain in place today. He is credited with establishing a network of distributors domestic and international. Through this successful project many friendships and relationships developed making Bob a

worldwide figure in the Aviation industry. He was dedicated to the concept of excellent customer service and made himself available 24 hours a day, 365 days a year.

In addition to his career with Velcon, he also enjoyed playing golf, traveling, and of course entertaining friends and associates along with Sandy, his wife of 25 years. He had an excellent reputation in the industry and was a true friend to everyone. He always knew a good joke and delivered the punch line just right. He was a master storyteller and a true businessman. He shall be missed by all.

Services were held at The Shrine of Remembrance in Colorado Springs, CO on Wednesday, February 11 and the burial was Saturday, February 14 in Kenosha, Wisconsin.

Our thoughts and support are extended to his wife, Sandy, a 30-year valued member of Velcon's Order Entry Department. ☘

Frequently Asked Questions & Answers

Q Can coalescers be reused after being allowed to dry?

A If coalescers are allowed to air dry for about two hours or more, and then reinstalled in the F/S vessel, we see a pronounced tendency for the elements to “grape” the water droplets, leading to excess water downstream. Thus, our recommendation is to replace the coalescers if they are exposed to air for more than two hours after being in service.

Exception: In a number of areas where coalescers can quickly develop a high differential pressure due to ice crystals forming inside the coalescers because of low fuel temperatures, a number of operators use two sets of coalescers to “keep the fuel flowing”. When one set gets rapidly up to the recommended change out delta P (15 psid), the set of coalescers is carefully removed into a warm room and allowed to “thaw-out”. The other set is installed and also changed out at 15 psid delta P, and the “thawed-out” set of coalescers is replaced in the F/S vessel. This swapping of coalescer sets continues until the fuel warms up or the coalescers build up 15 psid delta P due to particulate matter instead of ice. (These coalescers don’t get water on the socks - the water is freezing in the pleated media area!)

Caution: Be sure to keep hands off the socks when handling the coalescers and place a plastic wrap over the elements when they are thawing out.

Note: Some operators might ask why not provide heating coils and insulation to keep the vessel warm and ice will thus not form. If you think about the amount of heat needed to warm up a flowing stream of fuel, at about 600 gpm flow rate, you can see (at least the thermodynamic engineers can!) that this is not a feasible solution. However, placing a couple of F/S vessels in parallel in a heated building and alternating flow from one to the other may reduce the workload in swapping coalescer sets. (Aren't you guys in Hawaii glad you don't have this problem?!!)

Q How do shrouds work?

A The shroud acts as the separator stage in a Filter/Separator. The shrouds used in these vessels are composed of two different types of material. The body of the shroud is a water repellent knitted polyester or flannel, while the bottom of the shroud is a fiberglass material. As water is coalesced by the coalescer, it is repelled downward by the body of the shroud which is fitted loosely around the outside of the coalescer. As the water gets to the bottom, it will accumulate, and the fiberglass material will allow it to pass through to the sump of the vessel. ☞

Commissioning Cartridges

In our May 1997 issue of **The Clarifier**, we referred briefly to the commissioning cartridges in the “Frequently Asked Questions & Answers” section. In general, we strongly recommend that any filter vessel in line during initial commissioning, or the initial system “flush”, be fitted with a full set of filter cartridges.

The reasoning for the cartridges initial “flush” is to ensure that the pipe scale, dirt or other particles do not get downstream in the outlet chamber of the vessel or caught in “pockets” of the downstream pipe. Once caught in the outlet chamber or downstream pipe, it takes literally “forever” for these particles to work themselves loose. And when they do, they can cause problems for downstream meters, equipment and airplanes (or lead to suspicion that the filter elements are bypassing).

If a customer wants to install a set of less expensive commissioning filters in place of coalescers in a filter/separator vessel, we offer the following inside-to-out flow filter elements:

Open-Ended:	Threaded-Base:
FI-622FG5	FI-633FG10TB
FI-644FG10	FI-644FG10TB
FI-644FG5	



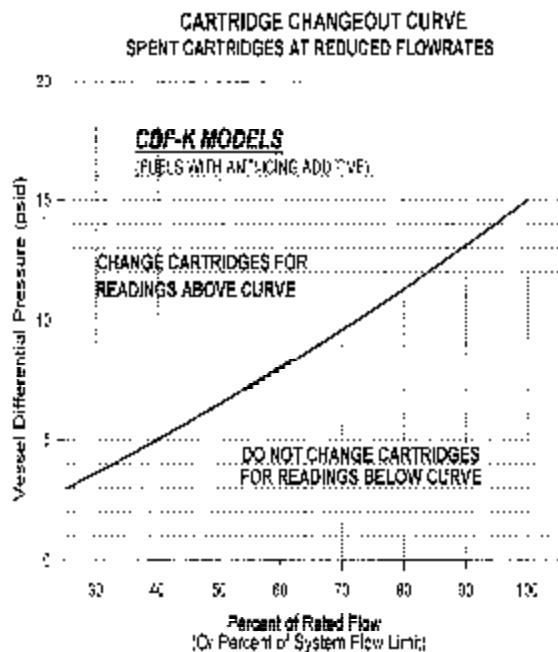
**AS³ Show -
April 1-3, 1998
Kansas City**

Velcon will be exhibiting its 10'x20' booth at the AS³ Show. Our booth number is 1510. We'll have new products and the latest industry news. We'll also unveil our latest limited edition poster. Please join us! ☞

CDF® Cartridges at Continuous Low Flow

Velcon has reviewed test data on its CDF cartridges, and recommends the following:

1. CDF cartridges should not be used continuously below 25% of the rated capacity. For example, the CDF-230K cartridge has a rated flow of 30 USGPM - this cartridge should not be used continuously below 7.5 USGPM.
2. Record differential pressure at all times at each fueling. Refer to the chart below to determine the cartridge change-out differential pressure. This chart shows the recommended change-out differential pressure for reduced flow rates.
3. For multi-fueling operations, rotate the refuellers or hydrant carts to guarantee that a single vehicle is not always used at low-flow rates. If a vehicle is used continuously at low-flow and change-out differential pressure curve is not used, and a vehicle is suddenly used at a high-flow rate, it could result in an extremely high differential pressure.
4. Our concern on flow rates does not apply to normal fueling operations - in almost all instances it is recognized that the fueling rate for an aircraft changes during the fueling operation - and does not present a problem.
5. Please note that Velcon plans to conduct more low-flow rate testing of CDF cartridges. We will keep you informed on any data that develops during these tests. ☞



Aviation Fuels Expert Receives ASTM Dudley Award

Our congratulations go out to Rick Waite, Aviation Products Manager with Velcon Filters, Inc., who has received the 1997 American Society for Testing and Materials (ASTM) Charles B. Dudley Award. On October 24, 1997, Waite received this award for editing ASTM Manual 5, Manual of Aviation Fuel Quality Control Procedures. The Dudley Award was established in 1925 in commemoration of the Society's first president, Charles B. Dudley, to stimulate research leading to standardization, extend knowledge in a specific field of interest to the Society, and recognize meritorious contributions to the publications of the Society.

Waite, a resident of Colorado Springs, received his B.S. in 1962 in marine engineering from the U.S. Naval Academy. He served as an active duty Lieutenant (fuels officer) with the U.S. Navy from 1962 to 1969. He then moved to the private sector and joined Humble Oil and Refining Co., New York and Massachusetts in 1969. There he worked as Propane Superintendent, Plant Manager and Dispatch Supervisor, until he moved to Exxon International Co., New York, N.Y., in 1973. He was the Aviation Operations Engineer for Exxon until his departure for Velcon Filters, Inc. in 1975. Waite also served in the U.S. Navy Reserve from 1969 to 1984 retiring as Captain, SC, USNR-R.

Within ASTM, Waite is a member of Committee D-2 on Petroleum Products and Lubricants. He has served as Secretary of D02.J010 on Fuel Cleanliness. In addition to ASTM, Waite is a member of the National Air Transportation Association, where he gives three to four presentations each year on the basics of filtration and quality control in aviation fuel.

Instead of being a highly technical publication for the specialist, Manual 5 is a summary of procedures that form the cornerstone of international aviation fuel quality control. The publication is designed to be a training tool and is intentionally written to be understood by the field personnel who carry out the procedures and by their supervisors who may not have had a technical education. The contents of the manual also reflect an industry consensus for qualitative procedures for which no prior agreement existed.

Committee D-2 is one of 131 ASTM technical standards-writing committees. ASTM (American Society for Testing and Materials), organized in 1898, is one of the largest voluntary standards development systems in the world. ☞

Editor's Note: Rick Waite is a bit embarrassed by the award, as he states there were about 50 other people who did a lot of the work in preparing Manual 5. "The award was divided evenly," Waite advises!

Clay Treatment Material

In the present and existing literature on the clay material Velcon uses in our clay treatment canisters, we refer to either 50 to 80, or 60 to 90 mesh size. We are unable to get these mesh sizes any more.

We have run laboratory and field tests on the 30 to 60 mesh size that can be supplied and have found that efficiency and life of the 30 to 60 mesh size clay is similar to that of the 50 to 80 mesh clay. Therefore, the clay canisters that we are now producing, our CO-718CE and CO-618CE, both contain the 30 to 60 mesh size clay.

This 30 to 60 mesh clay is the same type of clay used previously, just sieved to a slightly larger mesh size. It is attapulgus clay, Low Volatile Material (LVM), sometimes referred to as "fuller's earth". Please refer to our Velcon data sheets 1222, 1223 and 1231 for further information on Clay vessels, clay treatment, and clay elements. ☘

If you know anyone who would like to receive *The Clarifier*, fax their name, company and address to:



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

Revised End Caps on CDF® Cartridges

Velcon has qualified to the IP Specifications new end cap material and epoxy for bonding the end caps to the CDF cartridges. The end caps are made of glass-filled nylon material. The caps are adhered to the filter media with a two-part epoxy. This end cap material and epoxy are the same as presently used in our I-6xx85/87TB series end caps.

We will begin manufacturing the CDF's with the new end caps and epoxy in February 1998. The end caps will appear slightly different (less "shiny") than our present acetal end caps. ☘

Velcon Filters, Inc.
Attn: Cheryl Scripter
4525 Centennial Blvd. Colorado Springs, CO 80919-3350
Phone: (719) 531-5855
Fax: (719) 531-5690
e-mail: vfsales@velcon.com

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