

# THE CLARIFIER

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## Aquacon<sup>®</sup> Announcement

We are pleased to announce that Velcon Filters, Inc., has recently qualified our ACO-xxxxK cartridge series to the International Petroleum (IP) Specification for Absorbent Type Elements – Dated January 1995. In addition to the standard tests, we successfully completed tests at low flow (10% of rated flow), with low water (50 ppm). Velcon is the first filter manufacturer to complete witnessed testing to the IP specification plus low flow tests. The IP is preparing to update their specifications, and it is their intent to include the low flow test as part of the revised specification.

Velcon requests that all ACO-xxxxC cartridges in stock or in service be replaced as soon as possible with our new model ACO-xxxxK cartridges. Velcon will replace these cartridges free of charge.

To facilitate this process, cartridges may be exchanged through our worldwide Authorized Distributor network, or directly from Velcon Filters. To take advantage of this one time offer, please submit to our Authorized Distributor, or directly to Velcon, the following information:

- ✓ The number of elements to be exchanged
- ✓ Model Number (e.g., ACO-64401C)
- ✓ In stock or in service (if in service, please supply the vessel model number, truck ref number or tag number)

Upon receipt of this information, Velcon or our Authorized Distributor will make arrangements for you to receive, free of charge, the replacement cartridges.

Please contact Velcon Filters or one of our Authorized Distributors if you have any questions concerning this announcement. ☞

## Sandy Marting Retires

Velcon's Order Entry Department is missing one of its smiling faces. Effective the end of January, Sandy Marting officially retired. Sandy had been employed with Velcon since May, 1966 and worked in the Order Entry Department her whole career — she says that's what turned her hair grey!

Sandy's attitude, professionalism and sense of humor are sorely missed around here. She has relocated to Kenosha, Wisconsin, to be near her family. Please join us in wishing Sandy a happy and healthy retirement! ☞



## Warner Lewis Marks 30 Years as Velcon Distributor

Congratulations to Warner-Lewis Jr Industrie - Filter GmbH who will be celebrating 30 years as an Authorized Velcon Distributor this month. Warner Lewis is responsible for Velcon sales in Eastern Europe, the Middle East, Africa and the former Soviet Union. Dave Taylor, President of Velcon Filters, will be attending festivities scheduled for July 1 in Frankfurt. ☞

## Haneflex Achieves ISO 9002 Certification

Haneflex, Velcon's Far East distributor, recently attained ISO 9002 certification for their commitment to providing quality service.

We would like to extend our congratulations to all at Haneflex for this accomplishment. ☞

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## Frequently Asked Questions & Answers

**Q** What is the difference between API 1581 and USAF Spec 15880?

**A** There are three major differences between API 1581 and USAF Spec 15880. First, the concentration of Stadis 450 is reduced from the API requirement of 3.5 mg/l to 0.75 mg/l. Second, the effluent water limit is 10 ppm in the USAF specification. And third, Test Series 1 is not required.

**Q** Can you make a one time conversion of a refueller vehicle from jet fuel service to avgas service, without replacing the CDF elements previously in use?

**A** It is okay to make a one time conversion from avgas to jet fuel service or from jet fuel to avgas service as long as the CDF elements do not dry out. There may be a slight shrinkage or swelling of the O-rings, however this should not affect the seal. There is a potentially dangerous situation that may arise when converting from avgas to jet fuel, unrelated to the filters. The vapor space above the newly introduced jet fuel may have a high concentration of avgas vapor which could create an explosive environment.

Velcon filter/separator vessels and all associated coalescer and separator cartridges will function properly at -10°C without additional protection. Both -10°C ambient environmental conditions and -10°C fuel have no adverse effect on proper performance of Velcon filter/separator products. It is recommended that a water sump heater is installed, to allow the melting and draining of any collected water.



## When to Use Filter/Separators vs Fuel Filter Monitors With Absorbent-Type Elements

**F**or the past two years, several major oil companies, airlines and fixed based operations have recommended changing from fuel filter separators to systems incorporating absorbent type elements. This is particularly the case for airlines that operate twin-engine (ETOPS) aircraft over oceans.

### Features of Absorbent Type Elements:

- ❖ Provide positive shut-off, thereby eliminating expensive water defense mechanisms
- ❖ Compact – occupies less space than a conventional filter/separator
- ❖ Easy to change, does not require cleaning of separator cartridges
- ❖ No single element testing is required
- ❖ Not affected by surfactants

Although there are many advantages with absorptive type elements, they are normally only used for into-plane fueling – either on a refueller or a hydrant cart. The absorptive element is designed to retain water within its structure, whereas the coalescer element is designed to coalesce water into large droplets, which gravitate to the vessel sump.

### When to Use Filter/Separators

Filter/Separators are recommended when it is known that the fuel system is either wet or dirty. The standard coalescer cartridge used in filter/separators is normally 6” in diameter and has considerable more dirt holding capacity than the Institute of Petroleum (IP) qualified 2” diameter cartridge. Consequently, if the system were dirty or wet, then the 2” monitor cartridge would require frequent changing.

A number of operators already recognize that they have either dirty or “wet” systems. There are relatively few of these systems. In these

instances, the operator may elect to use a three-stage filter/separator, which uses 2” monitor cartridges installed inside the second stage separator cartridges.

### Converting Filter/Separators to Accept Absorptive Elements

There are three approaches:

1. Install threaded base or open-end inside-to-out flow ACI **Aquacon**® cartridges in place of the coalescers. This is the easiest conversion.
2. Install the outside-to-in flow ACO-xxxxxK **Aquacon** cartridges in place of the separator cartridges. Not too many F/S vessels have the separator capacity to convert in this manner.
3. Install a complete new manifold to accept CDF® 2” monitor cartridges.

When converting filter/separators, it is extremely important to supply a pressure differential limiting system, as the cartridge mounting plate on many older filter/separators was not engineered to accept 180 PSID (12 bar).

In summary, Velcon recommends using absorptive type cartridges for into plane fueling. If the system is dirty or wet, then use filter water separators followed by absorptive elements. At tank farms, pipelines, and refineries, use pre-filters followed by filter/separators.

For more information please telephone 800.531.0180 or visit our web site at [www.velcon.com](http://www.velcon.com). ☘

## Operation of Vessels Containing Water Absorbing Cartridges for Aviation Fuel

There are an increasing number of new vessels being sold with the water absorbing cartridges, and increasing numbers of existing filter and filter/separator vessels in the field being converted to the water absorbing cartridges.

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

1. Do not operate at less than 10% of the maximum rated flow of the installed cartridges for more than a few minutes at a time (such as at the start and end of into-plane refueling).
2. Daily drain upstream storage tanks, fixed filter/separator vessels, and refueler tanks (and possible low points in the piping) to remove accumulated dirt and water. Daily drain refueler vessel sumps or inlet manifolds, depending on flow direction of the cartridge(s). This draining will prolong element life and is a normal recommended fuel quality control practice.
3. Where differential pressure gauges are fitted, we recommend taking weekly differential pressure readings and flow rate, if available, and record the data.
4. Replace the cartridges if the differential pressure exceeds 25 psid (15 psid with fuel containing anti-icing additive), after two years in service, or if there is a reduction in flow rate or differential pressure, whichever occurs first. Individual fuel suppliers, customers, or applicable local authorities may have more stringent requirements.
5. 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., a differential pressure limiting device, set from 25-30 psid, should be installed across the vessel.
6. Have a spare set of water absorbing cartridges on hand, or available at a nearby Velcon Distributor, for the unexpected plug-up.

If you would like a copy of the Operating Procedures for Water Absorbing Cartridges, please contact Velcon or your Authorized Velcon Distributor. ☞

## Velcon Introduces Latest Limited Edition Poster

This year's poster is a highly dramatic shot of a F/A-18 Hornet taking off late afternoon from the deck of the USS Dwight D. Eisenhower. To receive your copy, please contact your nearest Authorized Distributor or call Julie Brewster at Velcon. ☞



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## Rick Waite Receives Award



Rick Waite has been awarded the SPR (Safety, Professionalism, Reliability) award from the National Petroleum Management Association. The award was presented to Rick during an Awards Luncheon at the GSE Show in Las Vegas on September 30, 1998.

Rick was recognized for his many years of service in Aviation fueling, from his early military days to Velcon. Among his many achievements, the NPMA mentioned his work with API and ASTM. ☞



## The Gang's All Here!



Since we've told you there are new faces in our Aviation Marketing Department, we thought that we'd take a shot and let you put faces with names. Front row (left to right): Julie Brewster, Robin Horton, Jackie Nunn, Elona Greer. Back row (left to right): Rick McKenna, Robin Mason, Linda Oppelt, Sheryl Farris and Rick Waite. ☘

## Back Issues on Web Site

Did you know that back issues of the Clarifier are now available on our Web Site? Our URL is

[www.velcon.com](http://www.velcon.com). Now you can access them yourself (saves the wait for us to mail them to you!).

We also wanted to let you know that this is the first issue we have published since February, 1998. Not to make excuses, but there are several reasons for this delay. First, we have some new faces in the Marketing Department and we have been busy trying to learn our jobs! Second, we have been anxiously awaiting low flow test results on our ACO cartridges (see "**Aquacon**<sup>®</sup> Announcement" on page 1).

Long overdue, we proudly bring you the latest issue of The Clarifier. ☘

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



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

Velcon Filters, Inc.

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