

THE CLARIFIER

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The Gammon DP-Pilot Valve

In converted filter/separator vessels on hydrant servicers 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. Velcon recommends using Gammon Technical Products (GTP) differential pressure limiting adjustable pilot valve. This device can easily be installed. Additionally, if your current differential pressure gauge is set for 0 - 15 psi reading, then this should be converted to 0 - 30 psi reading. GTP can supply a kit which includes: new scale, "O" rings, and spring. The part number for this conversion is GTP 9104. For more information on converting filter/separators to **Aquacon**® cartridges, please contact Velcon Filters and ask for Form #1884.

The Gammon article, "The Gammon DP-Pilot Valve: How Does it Work?" shown below and on following pages is reproduced with permission from Gammon Technical Products.

How Does It Work?

To use this pilot you must have a flow control valve in your system. It must be the type that uses "pilot flow" to control pressure or flow rate. Control valves that are made by Cla-Val, Whittaker (formerly Thiem), Watts, Oil Capital (OCV), Brooks, etc. are entirely compatible. Spring balanced piston valves with no pilot circuit are not compatible because our DP-Pilot operates in the pilot flow circuit.

We have been asked:

- Will the Gammon DP-Pilot in any way keep our control valve from performing its normal functions?

Answer:

Absolutely not. The control valve will do what it was designed to do, such as closing if water is detected in the filter/separator sump, limiting flow rate,

controlling pressure or acting as a check valve. Our DP-Pilot simply adds another function.

- How does the Gammon DP-Pilot measure the differential pressure on my filter/separator?

Answer:

Tubing connections are made at the upstream and at the downstream sides of the filter/separator, just as is done to connect a differential pressure gauge. See Figure 1.

(Continued, page 3)

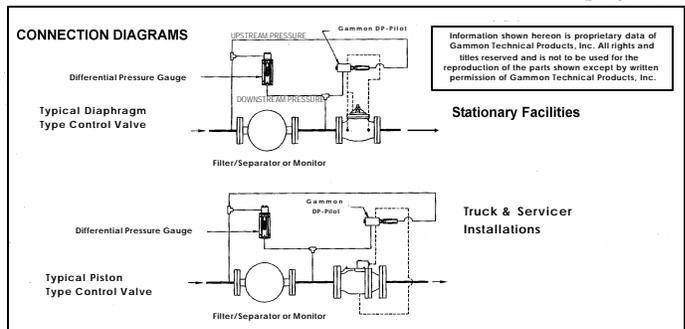


Figure 1

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Frequently Asked Questions & Answers

Q Does a monitor vessel (or a converted filter/separator vessel) containing API/IP 1583 qualified water-absorbing cartridges need to have quarterly water defense system checks, per ATA-103?

A No, the quarterly water defense system check applies only to filter/separator vessels containing coalescers and separators. This has been verified by checking the operating procedures with a number of major international airlines.

Q What industry trends concerning filtration equipment changes are occurring?

A There are two:

1. More monitor vessels are being placed on new refuelers and servicers instead of the larger, more costly filter/separator vessels. Also, more and more of the existing into-plane F/S vessels are being converted to the water-absorbing cartridges (e.g., the Velcon ACI cartridges).
2. We see more of the small tow-able non-propelled hydrant carts being used at airports with hydrant systems. These usually have the monitor vessels installed with the "fuse" type water-absorbing cartridges (e.g., the Velcon CDF-2xxK cartridges).

Q How do I find a particular article or topic from past Clarifiers on the Velcon Web Site?

A Basically there are a couple of different ways to search for specific phrases on Velcon's web site. One way is to click on the "Search" Button on the lower left hand side of Velcon's Home Page (www.velcon.com). This takes you to a new page, where you enter the phrase or word you need to search, and then click the "search" button again. The result of the search will show up next. You can click on any of the results to go directly to the page. Next, click "Edit" on the top menu bar and then "Find (on this page)". When Find window appears, type in the phrase you are looking for, then hit "Find Next" button. 

API/IP Filtration Sub-Committee Press Release

Below is an excerpt from the most recent press release from the API/IP Filtration Sub-Committee regarding test fuel chemistries and test qualifications for API/IP 1581 4th edition. The press release is dated November 29, 2001. For a complete copy of the press release, please contact Velcon Filters, Inc.

As a result of the extensive discussions, API/IP Aviation Committees have agreed that:

1. API/IP 1581 4th edition Category C test fuel chemistry will be changed to 1 mg/l Stadis 450 and 15 mg/l DCI-4A.
2. Petronate L will be removed from Category M and Category M100 chemistries.
3. The "effective date" of API/IP 1581 4th edition shall be extended until July 31st 2003, so that the 3rd edition will still be considered the "current edition" for certification purposes until that time.
4. The development of a 5th edition of API/IP 1581 will be immediately undertaken and will include all amendments required by the agreed-upon change in test fuel chemistries.
 - Preparation of the 5th edition will not provide an opportunity to reopen any technical debates for which a consensus position has previously been reached. However, minor technical corrections will be incorporated (e.g. amendment of the line velocity for the slurry injection system to 1.0 m/s as included in the API/IP 1583 and API/IP 1590).
 - A draft will be distributed for industry review in December 2001.
 - Industry feedback will be solicited at an open meeting in Paris in February 2002.
 - A final draft incorporating agreements in response to industry feedback will be prepared for API/IP Aviation Committee ballot by April 2002.
 - API/IP 1581 5th Edition will be published by July 2002 with an effective date of July 2003 superseding the 3rd and 4th editions.
5. Manufacturer Category M and Category M100 1581 4th edition qualifications will remain valid under 1581 5th edition and the API Monogram Program.
6. The 1581 5th edition Category C test chemistry will be incorporated into API/IP 1583 filter monitors and API/IP 1590 microfilter specifications. 

Gammon DP-Pilot Valve

- What does the Gammon DP-Pilot actually do?

Answer:

It compares the upstream and downstream pressures across a spring balanced piston. Normally, pilot flow passes straight through the DP-Pilot but if its piston moves because it has sensed a preset differential pressure, it moves slightly to partly block flow rate through the pilot system of the control valve. Creating this back pressure in the pilot system causes the control valve to close, but only enough to reduce the flow rate through the filter/separator. By reducing the flow through the filter/separator, the differential pressure across the element stays steady, not exceeding the preset pressure.

.....

***It is really true.
This simple pilot valve will absolutely insure that you will never exceed a differential pressure limit that is pre-set.***

.....

- We use monitor elements instead of coalescers in our filter/separator. Will the DP-Pilot prevent excessive differential across the vessel deckplate if a slug of water suddenly stops flow?

Answer:

Definitely, yes. Flow rate through the

control valve is stopped very rapidly because the DP-Pilot acts directly to stop pilot flow.

- Will the DP-Pilot permit me to extend the operating life of coalescer elements?

Answer:

Absolutely not. The only function of the DP-Pilot is to prevent your system from operating in the dangerous condition of a differential pressure that is greater than the recommended limit. When you have reached the manufacturer's recommended differential pressure limit, you must replace the elements. Also, if you continue to operate, the time to refuel an aircraft necessarily becomes longer. Figure 2 shows that when the preset limit of differential pressure is reached (normally 15 psi for coalescers or 25 psi for monitor elements), the differential pressure will always stay at that limit if the maximum recommended flow rate is taking place. Note that the maximum flow rate through the system necessarily is reduced automatically to keep the differential pressure from exceeding the limit.

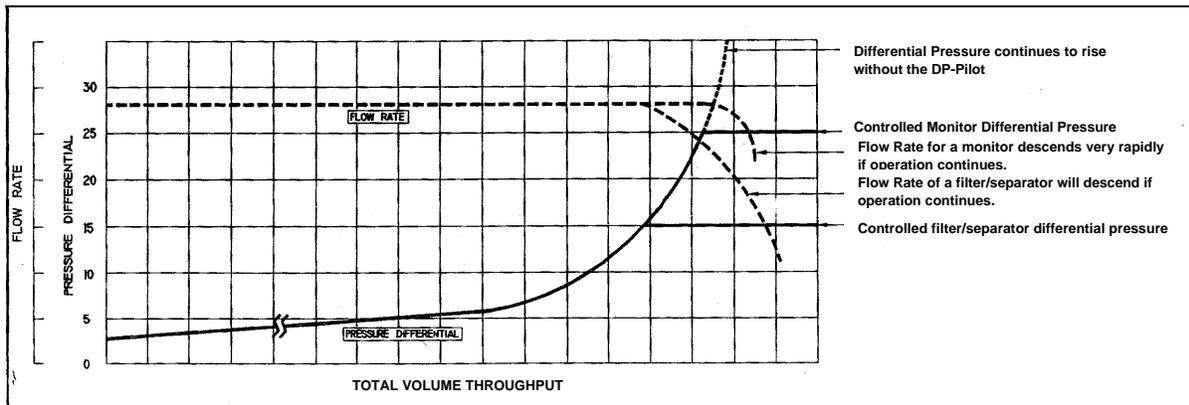


Figure 2

Elona Greer: 25 Years of Service to Velcon

In early October, we celebrated Elona Greer's 25th Anniversary with Velcon Filters. Many of you know Elona, as she wears many hats and interacts with many of our customers on a daily basis. Her present position is Sales Coordinator, which includes handling vessel quotes and orders as well as engineering duties such as preparing U1A forms. Elona has held several positions with Velcon over the years. She started out in production as a capper's aid. She later worked in



Elona receives her 25-Year Service Award from Dave Taylor.

many other aspects of productions. Elona also spent three years as the Export Coordinator before her current position. One of the things she likes about working at Velcon is that she "learns something new everyday." She attributes her longevity with the company to being open to change, both in herself and in Velcon. Her favorite aspect of working here is the people she works with -- both Velcon employees and distributors and customers.

Velcon Filters wishes one and all a safe and happy New Year!

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

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