



**“A Simplified Study In Filtration” - Part 6 of 10**

In previous newsletters we discussed where some sort of filtration device should be installed in a typical hydraulic system. Up to this point we have covered suction and return lines. Another area of filtration that gets completely neglected and forgotten about is the tank breather. The main function of the reservoir in a hydraulic system is to store and supply hydraulic fluid for use in the system. Typical reservoirs need to breathe. Therefore, a vented breather should be installed to accommodate the air exchange that results from the constant change in oil level, pressure, and temperature within the tank. Air carries contaminants. Just like hydraulic filters and strainers that filter the oil, breather units filter the air. The tank breather needs to be serviced and maintained just like all other filters.

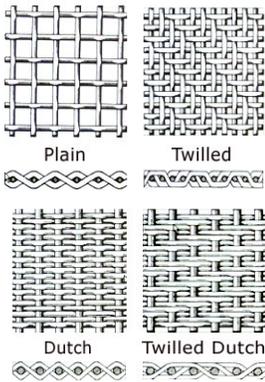
At this point, there is one more area regarding filtration we need to cover. It is an area of filtration referred to as "off-line filtration." This is when new oil is introduced into the system. In all systems the fluid will have to be replaced or replenished at one time or another. New oil, which is introduced to the reservoir through the filler location, must come from some outside source. It could be a larger reservoir somewhere in the near vicinity of the system, it could be from a new drum, as mentioned earlier, or it could even come from some container, which was filled at some other location within the work area. This oil needs to be filtered as it is introduced into the reservoir. Even brand new, unopened barrels of oil contain contaminants. This is where a portable system comes into play, such as a filter cart. A filter cart is the ideal unit to introduce new oil into a system. To give you an example of the amount of contamination in new oil (class 6) look at the following chart:

Number of Contaminated Particles in 100 ml	
5-10 microns	128,000
11-25 microns	42,000
26-50 microns	6,500
51-100 microns	1,000
101+ microns	92

New oil needs to be filtered before being introduced into any system and be filtered to as fine as 5-10 microns for minimal contamination introduction. Next time we will discuss proper sizing of the filter to the system. Stay tuned!

By the way, if you have missed any of our newsletters going back to Part 1, they can be found on our website at [www.flowezyfilters.com](http://www.flowezyfilters.com) under the 'News' button.

**MESH OR MICRON. WHAT'S THE DIFFERENCE?**



Different weaves of wire cloth

That's a good question. If you need to keep a specific level of filtration in a system, make sure both you and your customer are on the same page. If you are talking micron and your customer is talking mesh, there will be problems, guaranteed.

On our website you will find a link that reads, Learning Center. Then go to Wire Cloth Absolute Rating Chart, where you will find information that can help you understand differences between mesh and micron, relative sizes of particles, and other technical "tools." They may help you in your career as we all move forward in solving problems through filtration.

If you have any questions or comments, or want to be removed from this mailing list, just send us an e-mail at [flowezy@flowezyfilters.com](mailto:flowezy@flowezyfilters.com) or call (734) 665-8777.

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**WE UNDERSTAND FLUID CLEANLINESS**

All gearboxes, reservoirs, and storage tanks are designed to breathe and have a certain amount of headspace to accommodate the air pressure differential between the equipment housing and the surrounding atmosphere.



For the ultimate protection, not only to prevent air-borne particles from entering the tank, but also, moisture, a desiccant tank breather is necessary. After all, moisture is the second most destructive carrier of contamination. And what is contamination? Anything that doesn't belong in the system.

Use one of Flow Ezy's desiccant tank breathers to prevent contaminants AND water vapor, both inside and out, which causes rust and oxidation. Help your system's performance run at peak efficiency! Call or e-mail Flow Ezy for more information. We can help!

We ARE filtration!