



“A Simplified Study In Filtration” - Part 2 of 10

If there is an area of filtration that is not very clear to you or if you have any questions concerning application, contact a filtration specialist. After all is said and done, manufacturers, distributors, dealers, and users are all on the same side.

WHERE DOES CONTAMINATION COME FROM?

Contamination is always present and new contamination is generated continuously within every hydraulic system. Unless the contamination is controlled, disastrous results will most likely occur. Let's take a look at the sources of contamination.



There are four distinct origins of contamination.

- Built-In Contamination.** Manufacturers of hydraulic systems are generally careful to supply clean products. However, despite how much effort is put forth in doing this, new equipment does contain some contamination. For example, this might include sand, moisture, pipe sealants, weld scale, dust, dirt, burrs, paint, or other things of this type. There may even be a little surface rust when the system is manufactured. Keep in mind that things like weld scale, sealants, or even paint might not loosen up until the system has been in operation for a period of time and been subjected to the vibration that occurs during system operation.
- Internally Generated Contamination.** This example of contamination is caused by the moving parts within the system when it is in operation. Contamination is caused by wear, component fatigue, cavitation, and oxidation of the fluid being used in the system.
- Ingressed Contamination.** This type of contamination is produced during servicing or maintenance of the hydraulic system. If the system is located in an environment which is dirty or polluted, then this will have an effect on the cleanliness of the fluid. Contamination can be ingressed through the breather location as well.
- New Oil.** This is a very common area. When new hydraulic oil is delivered it is probably in old drums. Therefore, when the oil is introduced into the system, it isn't uncommon to find dirt already in the oil. These drums are very rarely "cleaned" well enough before being filled with oil.

This time we mentioned the “origins” of contamination. Next time we will take a look at the “causes” of contamination. Stay tuned for Part 3.

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HYDRAULIC FLUID HAS 4 FUNCTIONS

- To transmit power
- To lubricate internal moving parts
- To act as a coolant for the system
- To seal the clearances between close fitting moving parts

TANK FILLER-BREATHERS

For reservoir filling and breathing. Various styles are available. Various options include basket length, dipstick, material, high neck, magnet, grip cap or plain cap, inner guard, side mounted type, those with removable basket, lock lug, and even level of filtration in the cap itself. Industry standard patterns are used for mounting. All nylon units are available from stock, as well.



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