FLOW EZY FILTERS, INC.

"News You Can Use"

Manufacturer of hydraulic, pneumatic, air, oil, and fuel filters

February 2017

"A Simplified Study In Filtration" - Part 4 of 10

II. FILTER PLACEMENT IN A TYPICAL HYDRAULIC SYSTEM

Before we get started let's define a couple terms.

Micron. A unit of length equal to one-thousandth of a meter (ie: 25 microns is equal to .001 inches). The lower limit of visibility (the naked eye) can see 40 microns.

Mesh. The number of openings in one inch of cloth

Keep in mind so as not to get confused, that the lower the micron number, the finer the filtration. The higher the mesh number, the finer the filtration.

Before making a determination of where to place the filters in a hydraulic system, understand that the reservoir (tank) is a filter itself. When a reservoir is filled with oil the contamination will settle to the bottom. Therefore, all oil above the area in which the settlement has occurred is cleaner than that oil at the bottom of the tank. Most tanks are built with a "V" shaped bottom to accommodate the dirt with a baffle running the length of the center of the tank so much of the dirt will stay at the bottom through system operation.

Moving ahead from there, there are at the very least, three locations in which filters or strainers should be located. First of all, let's get some terminology out of the way. I'm speaking of filters vs. strainers. In this article, when "strainer" is mentioned, it means 74 micron or coarser. "Filter" means finer than 74 micron.

The absolute first area in which filtration should be placed is on the inlet line (suction line) before the pump. These strainers are used to prevent ingestion of large particles into the pump. Before we go any further I need to make a very important point. **It is very important to keep the pump operating in a smooth and efficient manner. Remember, the pump is the heart of all hydraulic systems. It is the most important component in the hydraulic system.**

Next time……..Part 5. More on filter placement!

BASIC HYDRAULIC PRINCIPLES

1. _____ is the branch of science that deals with the practical application of water or other liquids at rest or in motion.
2. The weight of the atmosphere at sea level is _____ psi.
3. _____ is the force per unit area.
4. A pressure gauge reads _____ psig at normal atmospheric pressure.
5. _____ is the distance a fluid travels in a specified time.
6. _____ is the pressure lower than atmospheric pressure.

ANSWERS: (1) Hydraulics (2) 14.7 (3) Pressure (4) 0 (5) Velocity (6) Vacuum

WORDS OF WISDOM

- Getting something done is an accomplishment. Getting something done right is an achievement. *-Anonymous*
- To acquire knowledge, one must study; but to acquire wisdom, one must observe. *-Marilyn vos Savant*

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TEXAS SIZE SUCTION STRAINERS

These are BIG suction strainers. They thread onto reservoir suction pipes inside the tank. They are available as large as 8" diameter, up to 6" npt, and can handle flow rates up to 600 gpm. Both male and female pipe connections are offered. Stainless steel wire cloth is standard with mesh sizes of 30, 60, 100, or 200. Each flow rate is offered in more than one length/size configuration to fit your available space. Give us a call for more information.

INTERCHANGES AND CROSSOVERS

Flow Ezy manufactures many interchanges to other manufacturers' filters including Pall, Parker, Marvel, Vickers, Schroeder, Donaldson, Hydac, and many others. See our massive list on the home page of our website. Use the drop down menu and go to interchanges and crossovers. There are over 26,000 different filters listed. If you don't see what you are looking for, give us a call. We still may be able to help you.

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