OHIO FABRICATORS COMPANY

news YOU CAN use

ISSUE 21

"Unparalleled Delivery Times on Custom and Standard Filtration Products"

Understanding the ISO Code Chart

Each operator, or those responsible for equipment operation for specified applications, should have a target of how clean the hydraulic oil needs to be in order for it to run smoothly and efficiently. The ISO Code Chart from issue 20 should be used as a "tool" in determining this. However, the ability to read the chart begins with the understanding of what is being read. If you are using ISO graded hydraulic oil, use the chart from Newsletter #20 and the explanation on p.2 (Advanced Filtration 101) regarding how to understand graded ISO fluids using particle counters. It will help to understand the numbers used in grading ISO fluids. Give us a call if this explanation is not clear to you.

ISO 4406 CODE CHART

RANGE CODE	PARTICLES PER MILLILITER MORE THAN	UP TO/ INCLUDING
24	80000	160000
23	40000	80000
22	20000	40000
21	10000	20000
20	5000	10000
19	2500	5000
18	1300	2500
17	640	1300
16	320	640
15	160	320
14	80	160
13	40	80
12	20	40
11	10	20
10	5	10
9	2.5	5
8	1.3	2.5
7	0.64	1.3
6	0.32	0.64

sample see photo 1

Particle Size	Particles per ml	ISO 4406 Code Range	ISO CODE
4u	151773	80000-160000	24
6u	38363	20000-40000	22
10u	8229		
14u	3339	2500-5000	19
21u	1048		
38u	112		

sample see photo 2

Particle Size	Particles per ml	ISO 4406 Code Range	ISO CODE
4u	492	320-640	16
6u	149	80-160	14
10u	41		
14u	15	10-20	11
21u	5		
38u	1		

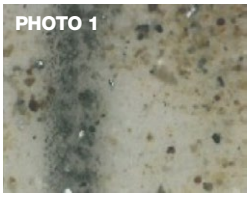


PHOTO 1

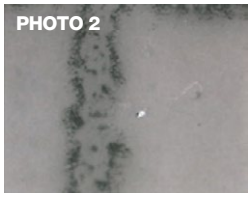


PHOTO 2

Flow Diffusers

What is the purpose of flow diffusers? The diffuser protects the system from high-flow surge conditions. Sometimes, systems have a high speed return line and the fluid returning to the reservoir needs help slowing it down. If the fluid returns to the reservoir with too high a speed, foaming can occur which will cause problems when the fluid reaches the inlet line. This can cause cavitation or aeration to occur once the fluid reaches the pump, which is the heart of the system, and destroy it. In an efficiently running system, there must be little disturbance at the pump inlet in order for it to remain a smooth operation.

Flow diffusers also reduce operation noise. In addition, they also allow greater freedom in reservoir design because they may eliminate the need for a reservoir baffle plate. Installing a flow diffuser can make a dramatic difference in system efficiency.

OFCO flow diffusers are offered with male or female npt threads from ¾" to 3", for a 30 to 300 gpm flowing system (based on using standard Schedule 40 pipe). All diffusers are available with either a hex nut or coupling connection. For more information on OFCO's Model DFD diffusers, click on the link below.

OFCO Flow Diffusers

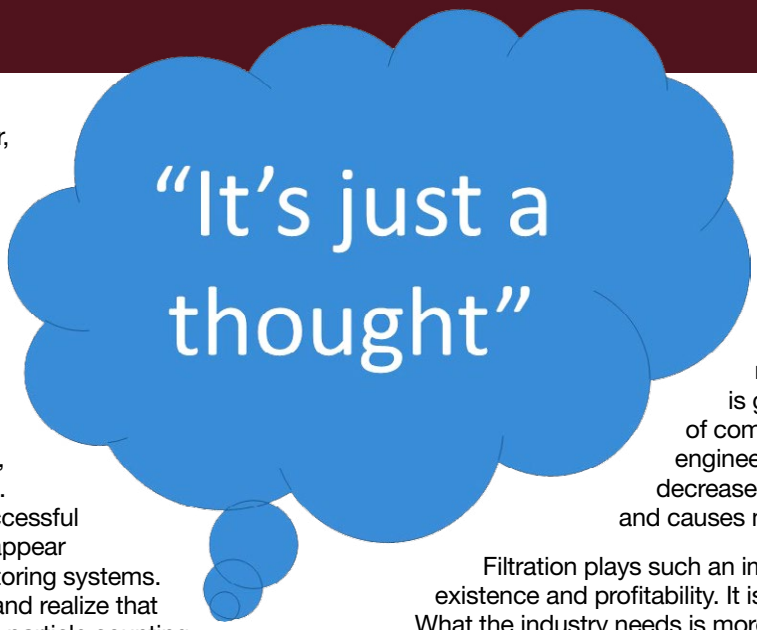
ASK THE ANSWER MAN

With regards to safe and efficient systems, the question came up this week in a conversation with a maintenance manager who oversees the operation of seven different hydraulic systems...

How can a fluid conditioning system be safe and more efficient?

For a system to be safe and fully efficient, it really needs a sophisticated fluid conditioning strategy and continuous online monitoring. There are no shortcuts. Only a holistic approach with a strategic vision of what can actually be achieved, can permanently improve the state of the fluids that are used, significantly increasing machine availability with reduced downtime, if any, and decreased operating costs. Remember, cost reductions of up to 30 percent are not uncommon.

Advanced Filtration 101



Do we filter, do we need to filter, or don’t we filter? Engineers, operators, and maintenance personnel are under so much pressure today that most times they prefer to do things in a way they know works as opposed to saying, “Let’s just take a little bit of time and maybe try something new, and ultimately better.” Filtration, as a whole, has been, and still is, a neglected science. It seems that only the most successful and sophisticated companies appear interested in oil condition monitoring systems. These companies understand and realize that being proactive, meaning using particle counting technology, is more cost-efficient than being reactive. Oil contamination is still, today, the main problem of inefficient hydraulic systems. We have been reading and hearing for years that anywhere from 80-90 percent of all system problems are caused by contamination. Isn’t it time to take charge of the problem and fix it?

Excuses of why this isn’t done has consistently led to system failures. That means lost dollars in production, components, labor, time, and ultimately profit. What we need are people who will take the time to find more efficient ways to get the job done. The lack of awareness and improper training is the fault of the industry. An influx of new, educated, and pro-active people to replace the experienced ones is greatly needed. Today, a lot of companies have less “in house” engineering and maintenance, which decreases the ability to move forward and causes more difficult growth.

Filtration plays such an important role in a company’s existence and profitability. It is a major factor in its livelihood. What the industry needs is more skilled people to apply some of the technologies that often require experience to use. To be successful, there must be a plan, a strategy, commitment, and hard work. Give us a call. We are ready and willing to help.

Some Thoughts on How to Select Filters

Individual filtration needs are almost as unique as fingerprints. Many factors should be considered before filter selection can be made. Pretty simple, heh? Yes and no. Consider the following details that will help in the decision-making process.

- System components
- Flow rate
- Allowable pressure drop
- Type of fluid
- System pressure
- Ease of element maintenance
- Operating temperature
- Fluid compatibility
- Level of filtration
- Environment

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