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HYDAC INTERNATIONAL

Stat-Free® Elements

New Problems New Solutions

Today's environmentally friendly hydraulic fluids can cause serious problems that did not occur with fluids containing heavy metal additives. Electrostatic discharges and a host of other detrimental effects can occur, but a solution exists to alleviate these problems. HYDAC's solution is the Stat-Free element.

The Danger

When hydraulic and lube oils travel at a high velocity through the micron-sized pores of today's filters, the fluid and the mesh pack can interact, developing electrostatic charges in both. Since the system is unable to neutralize this charge, it builds and eventually sparks. At the point of discharge, temperatures can be very high which results in the breakdown of the lubrication fluid and whatever additives may be present. Surface varnish and sludge deposits develop. Additional risks:

- Burn holes in the filter media result in loss of efficiency
- Failure of cooler units at the point of discharge
- Destruction of electronics from the arcing of electromagnetic waves in the system
- System performance degradation from the introduction of aging byproducts
- Risk of fire in the reservoir due to air/oil mixture and ignition source

The HYDAC Solution

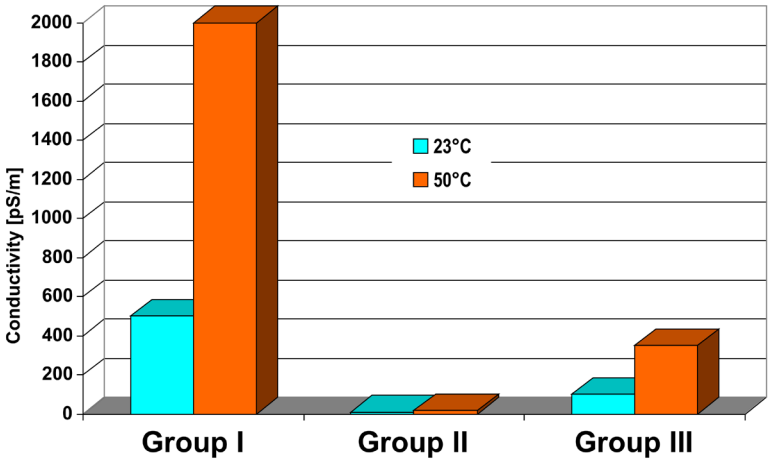
HYDAC utilizes metallic or carbon impregnated end caps and support tubes and has designed filtration layers with a special hybrid media. This proprietary combination minimizes the generation of charges in both the element and the fluid. The result is no chance of arcing in the filter and lower charging of the fluid preventing arcing at other locations in the system such as the coolers, hydraulic tank, valves and other close tolerance components. This line of elements is compatible with our current element line and betafit interchange elements.

What Generates Static?

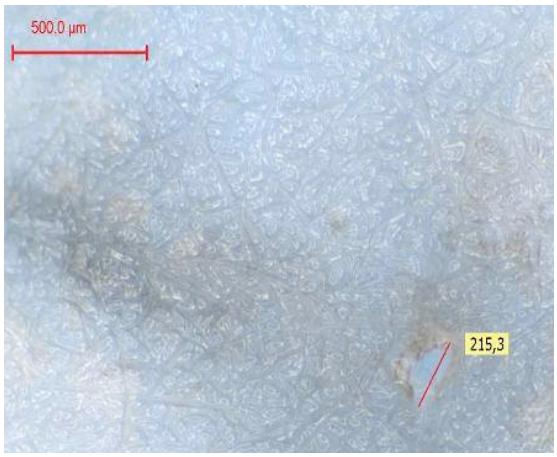
- Fluid loading at greater than 0.017 gpm/in^2
- Fluid Conductivity less than 500 picosiemens/meter
- Compact systems with high flow rates
- The use of ashless, zinc free fluids
- Low temperatures during operation

The absence of metals and impurities in today's environmentally compatible hydraulic fluids tends to promote the generation of electrostatic charges that build in the filter assembly and in the fluid which passes downstream in hydraulic and lubrication systems. Within the filter element, these charges degrade element efficiency and rapidly age the hydraulic oil, which leads to the formation of sludge and varnish, eventually destroying both the fluid and the additives.

Conductivities of Category Fluids



The obsolete Group 1 fluids contain zinc and other heavy metals, which gives them much higher electrical conductivity than Group II and III fluids, which are environmentally acceptable.



Electrostatic discharges accelerate the aging of hydraulic fluid, and burn holes in filter media. Here, a hole more than 200 µm in diameter negates the effectiveness of the 3-µm media it has compromised.

Model Code

0660 – R – 010 BN4HC /- SFREE

Size
All standard sizes available (0030 - 2600)

Type
Available in "D" pressure & "R" Return elements

Filtration Ratings (micron)
see below element media for micron sizes available

Element Media
ECO (3, 5, 10, 20µm) 10 bar collapse
MM (10, 15µm) 10 bar collapse
BN4HC (3, 5, 10, 20µm) 20 bar collapse
BH4HC (3, 5, 10, 20µm) 210 bar collapse

Stat-Free
Stat-Free Element

For pricing and delivery information contact your local HYDAC sales representative.

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