Donaldson HY-PRO™

FPL Saves Servo Valves

Prevents Unnecessary Downtime & Reduces Maintenance Costs

The Problem

Subpar filtration on each of a tire plant's 35 tire grinders (tire uniformity optimizers) was wreaking havoc on servo valves. In one year this plant repaired or replaced 198 valves at an average cost of $2,200 each. The system experiencing the most problems was chosen by the tire manufacturer to test Donaldson Hy-Pro's equipment and elements. Many servo valves require a maximum operating ISO fluid cleanliness code of 16/14/11 while the most sensitive valves require a 14/12/9. Analysis showed the current operating ISO code was 22/20/17.

The Solution

Donaldson Hy-Pro suggested implementing a total system cleanliness approach by adding a 1gpm FPL off-line filter panel fitted with a β2.5[c] > 1000 filter element to the 25 gallon hydraulic reservoir to reduce contamination levels and extend valve life. A spin-on breather would also added to the reservoir to exclude solid particulate ingression from the atmosphere.

Operating ISO code had been reduced from 22/20/17 to 13/9/7 within days

The Results

Donaldson Hy-Pro designed, manufactured and shipped a custom FPL filter panel specific to the customer's requirements in 1 week. Donaldson Hy-Pro and the local distributor were on site to install and startup the system. Days after installing FPL and breather the operating ISO code had been reduced from 22/20/17 to 13/9/7 which represents a 99.8% reduction in particles 4µ[c] and larger. Subsequently, filter panels and breathers were added to each of the 34 other tire grinding systems.

In the first six months after installing the remaining units, the tire manufacturer only repaired or replaced 3 servo valves suggesting they'll only service 6 throughout the entire year. 1 year after installation and clean-up of the first unit the original 13" 1 micron element is still collecting dirt.

In addition to the savings realized by reducing servo valve failures the manufacturer experienced a 2% increase in production rate due to the valves operating more efficiently.*

*Before adding offline filtration to the system the non-bypass filters in front of the valves were clogging and reducing flow to the valves causing them to operate at a reduced capacity.

1 FPL
Spin-On Breather

-9 ISO Codes

99.8% Particulate Reduction

$317,995
TOTAL YEAR ONE SAVINGS AFTER SWITCHING TO DONALDSON HY-PRO ELEMENTS

$417,150
TOTAL YEAR AFTER YEAR SAVINGS WITH DONALDSON HY-PRO ELEMENTS

$4,072,345
TOTAL 10 YEAR SAVINGS WHILE USING DONALDSON HY-PRO ELEMENTS

Want to find out more? Get in touch.
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