

# Paper Mill Lube Oil Filter Element Upgrade

Reduces Downtime, Maintenance Costs, Element Costs and Fluid Costs

## The Application

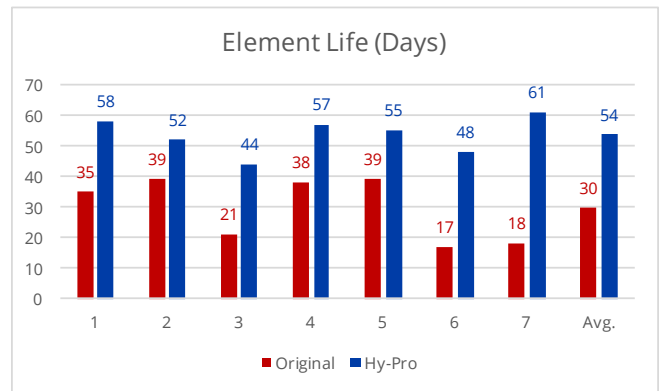
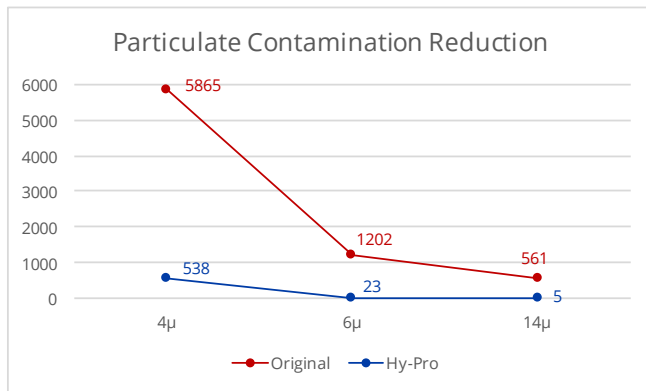
Large paper mills rely on continuous production to be profitable, thus unplanned down time is a huge financial burden. When unplanned downtime does occur and equipment must also be either repaired or replaced, the damages can feel exponential.

## The Problem

Contaminated lubricants were fouling the rolling mill's critical components; resulting in unplanned and unnecessary downtime. Online particle counts showed the fluid had an ISO Fluid Cleanliness Code of 20/17/16.

## The Solution

The original 6 micron filter elements were upgraded to HP8314L39-6MB ( $\beta_{[c]} \geq 1000$ ) elements.



## The Results

ISO Fluid Cleanliness Codes plummeted to 16/12/9 as particles  $\geq 4\mu_{[c]}$  were reduced by 90.8%, particles  $\geq 6\mu_{[c]}$  were reduced by 98% and particles  $\geq 14\mu_{[c]}$  by 99.5%. The Hy-Pro elements lasted 80% longer at 54 days compared to the original elements' average of 30 days.

## The Benefits

- Increased Element Life
- Increased Oil Life
- Increased Component Life
- Reduced Downtime
- Reduced Maintenance
- Reduced Operating Cost

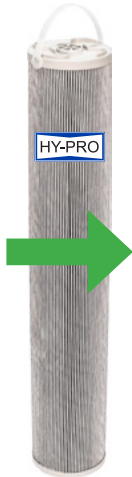


# Amount of Dirt Passing Through System Components Annually

**20/17/16**  
Before Element Installation



198 lbs<sup>1</sup>



**16/12/9**  
After Element Installation



13 lbs<sup>1</sup>

<sup>1</sup>Calculations based on 10gpm flow rate & 24/7 operation. Graphical representations scaled proportionately.

## Roller Contact Bearing Life Extension

Current ISO Code	New ISO Code 2 x Life	New ISO Code 3 x Life	New ISO Code 4 x Life	New ISO Code 5 x Life
28/26/23	25/23/19	22/20/17	20/18/15	19/17/14
27/25/22	23/21/18	21/19/16	19/17/14	18/16/13
26/24/21	22/20/17	20/18/15	18/16/13	17/15/12
25/23/20	21/19/16	19/17/14	17/15/12	16/14/11
24/22/19	20/18/15	18/16/13	16/14/11	15/13/10
23/21/18	19/17/14	17/15/12	15/13/10	14/12/9
22/20/17	18/16/13	16/14/11	14/12/9	13/11/8
21/19/16	17/15/12	15/13/10	13/11/8	
20/18/15	16/14/11	14/12/9		
19/17/14	15/13/10	13/11/8		
18/16/13	14/12/9			
17/15/12	13/11/8			
16/14/11	13/11/8			
15/13/10	13/11/8			
14/12/9	13/11/8			

Based on the Bearing Life Extension table, the user should expect to see an increase of

**2-3x**  
bearing life

