

## Success Story

Application: Vacuum Pump Seal Water

Industry Classification: Pulp and Paper



**Background:** A manufacturer of fine writing papers was evaluating the feasibility of reusing its pump seal water. Currently, the manufacturer was discharging the relatively clean water to sewer. The motivation was that the water was heated from approximately 55°F when entering the seal cavity to greater than 100°F when leaving. Significant energy savings were attainable if this heated water were to be reused elsewhere in the plant.

To enable this water reuse, filtration was necessary to ensure all contaminant introduced from the seal area (small felt fibers) were removed. A feasibility study was undertaken to determine the removal efficiency of the Zero Gravity Filter at different micron ratings and the ability of the elements to sufficiently backwash small cellulose fibers from the filter element.

**Solution:** On-site testing proved the effectiveness of 75 $\mu$  filtration as well as the filter's ability to effectively backwash small fibers.

Application Details:

Flow Rate: 700 gpm  
Micron Rating: 75 micron

Filter Specifications:

Filter: (2) System 2000, 4 pod filters  
Filter Elements: Stainless steel cages

**Results:** The plant has been able to reuse approximately 500,000 gallons of 100°F water per day per machine while providing a payback of less than one year.

**Date:** December 28, 2000