



# Case Study

## Decanter Underflow Pump Test

*Hercules Inc, SFAAP, DeSoto, Kansas*

### The Challenge

Limited solids content reduced productivity

Existing PD pumps breakdown frequently, unreliable

Spending \$35,000/yr each to maintain existing pumps

### The Discflo Solution

Disc Pump's unique design can pump up to 80% solids

Increased solids concentration 2.2 times current levels

Expected 90% cut in maintenance and repair costs



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Hercules Inc has tested the Discflo Disc pump against progressive cavity pumps in a high-solids decanter underflow slurry application. The test, carried out at the Sunflower Army Ammunition plant in DeSoto, Kansas, showed conclusively that Discflo technology is the best at all flow rates and solids concentrations (up to 55%), with a 90% anticipated saving in maintenance costs.

The objectives of the test were as follows:

1. Current pumps are only capable of pumping less than 25% solids sludge. This leads to extra cost of pumping and treating diluant water.
2. Pumping higher sludge concentrations will allow Sunflower Army Ammunition Plant to increase production rates for a relatively low capital investment.
3. The elimination of the progressive cavity pumps should lead to fewer breakdowns and thereby higher production rates.
4. The three current progressive cavity pumps used in this service are unreliable and extremely expensive (\$35,000/year each) to maintain.

### Results

The Model 402-2D Disc Pump was run on four concentrations of decanter underflow liquor: 25%; 35%; 45%; and 55%. The Discflo Pump successfully pumped all concentrations at all test flow rates. In addition, all cold starts after 15 minutes settling time for all concentrations were successful. The Disc Pump experienced no maintenance problems and no wear during any of the tests.

All test objectives were successfully met by the Discflo Pump without any noticeable or measurable undue effort on the pump's part. The Discflo Pump appears to be able to handle significantly heavier solids than the test slurries that were prepared. This substantiates data from other Discflo customers with far heavier solids slurries.

**Call Discflo now to find out how our pumps can solve your problems.**