

CASE STUDY

Pumping Anthraquinone Successfully

Georgia Pacific, Palatka, Florida



The Challenge

- Abrasive, over 50% solids slurry
- Rubber stator failed at six weeks
- PD pump failed

The Discflo Solution

- Discflo 'non-contact' pumping ideal for abrasion, high solids
- No breakdown in first 12 months of operation
- Discflo pump outlasted PD pumps 10 times to date

Anthraquinone (AQ) is a pulping catalyst for pulp digesters manufactured and patented by Chemical Products Technologies of Cartersville in Georgia. It is used in the pulp and paper industry to enhance the yield and accelerate the delignification of Kraft pulps, permitting the mill to manipulate the digestion process in terms of the final characteristics of the digested pulp fibers.

From a pump perspective, however, the AQ slurry is tough to handle. It is abrasive and high solids, usually containing a minimum of 50% dispersed solids, with mean size under 1.5 microns. Specific gravity is 1.2.

In late 1997, Georgia Pacific in Palatka, Florida, installed a system for injecting AQ into the digesters. The AQ manufacturer recommended a progressive cavity pump as the pumping device but after six weeks, the pump's rubber stator was completely bored out and would no longer pump the AQ. The Pulp Mill Maintenance Supervisor called Herb Irish of Irish Engineering (Discflo's distributor) to discuss replacing the pump with a Discflo pump.

The plant had previously replaced several positive displacement type pumps with Discflo units for pumping defoamer emulsion to the top of the bleach towers. He found that the disc pumps outlasted the PD pumps 10 to 1, and suspected he would have the same success in the AQ service.

The supervisor had a spare 2015-2HHD-8 Discflo pump on hand, which he agreed to try in the AQ application. The pump employed a 15 HP motor, and could meet the operating conditions of 32 GPM at 200 ft TDH with 1.5" pipe.

The mill put the Discflo pump into service in January 1998. One year later, the Maintenance Supervisor called Herb Irish to say that the pump is working great after one year. The only change was a high polish on all internal parts. The bottom line is the disc pump has been in service about 10 times longer than the PD pump. Plus, the Discflo pump is still in good condition.

This case study is based on information supplied by Herb Irish of Irish Engineering, Discflo's distributor in Alabama.



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