



Case Study

Pumping Diatomaceous Earth

Emerson Electric, Paris, Tennessee

The Challenge

Excessive impeller and casing wear from abrasion

Specific gravity of 1.65

Packing failure/leakage in coolant application

The Discflo Solution

Pump's 'boundary layer effect' limits abrasive/corrosive wear

Double cartridge seal solved leakage problem

Saved \$75,000/yr in maintenance

Discflo pump technology has been a major success for two separate installations at Emerson Electric's Paris plant in Tennessee. The first application, in June of 1990, was pumping diatomaceous earth; the second, installed a year later, is pumping a 2-3% micron 108 coolant containing 10% cast iron filings.

In the diatomaceous earth application, Emerson was originally using a 1 x 2 x 5-1/4 centrifugal pump. They had nothing but maintenance headaches; the impeller and casing had to be replaced every two months, inflating the plant's maintenance budget greatly.

A Model 2015-2D Disc pump with a 2 HP, 1750 rpm, motor was then tried to handle the earth. The fluid is highly viscous, with a specific gravity of 1.65, and abrasive. The process required a flow rate of 60 GPM at 151 ft TDH.

This pump has been running for two years now and has only had a mechanical seal failure because of operator error. This pump has been a very big relief to the maintenance personnel at Emerson. It was a deciding factor in choosing Discflo pumps for the coolant application at the plant.

In the past, Emerson used a Model 4066 Crane Deming pump for handling this abrasive, high solids fluid (10% cast iron filings). The pumps, which were mounted vertically with chair mounted 40HP motors, suffered excessive casing and impeller wear and packing failure/leaks. As a result, the pumps required total rebuild every three months. Moreover, Emerson was losing product from the packing leakage.

Two Discflo Model 604-3HHD horizontal end-suction pumps were then installed in 1991, pumping at 900 GPM at 12 ft TDH. They use Delta 3200 double cartridge seals with barrier fluid.

The Disc Pumps have solved both the excessive wear and the leakage problems, with no downtime and no repairs since start-up. In the first year of operation, Emerson's maintenance manager estimates that the pumps have saved them over \$75,000 in maintenance costs.



Discflo Corporation

10850 Hartley Rd
Santee, CA 92071
Phone: (619) 596-3181
Fax: (619) 449-1990
Sales@Discflo.com
www.Discflo.com

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