

CASE STUDY



Pumping Chicken Parts, Blood, Fat

Tyson Foods, Arkansas & Pennsylvania

Nineteen Discflo Disc pumps have been installed at a chicken processing facility for Tyson Foods in Arkansas (late 1997-early 1998). The Discflo pumps are being used in various applications throughout the plant. One of the toughest jobs is pumping poultry waste, consisting of chicken entrails, guts, heads and bones. At the company's other facility, this has been a particularly difficult material to pump, frequently clogging up the existing centrifugal pumps, even when a chopper is used prior to pumping.

Because of the non-impingement pumping mechanism in the Disco pump, however, this is not a problem at the new facility. In the Disc pump, contact between the pump and the product being pumped is minimal, and the pumping action is smooth, laminar and pulsation-free, allowing large and stringy solids to pass through the pumping system without clogging.

Disc pumps are also installed in the DAF (dissolved air filtration) area of the plant. The product being pumped contains significant amounts of entrained air, a problem that causes cavitation in conventional pump designs. The Discflo pump, with its non-impingement design, can handle fluids containing as much as 80% entrained air without any problem.

Other applications at the new facility include pumping blood (an abrasive product), pumping fluid from the blood coagulator (abrasive and contains entrained air), and handling poultry fat (a viscous and shear sensitive product). In the latter case, the disc pump handles the fat without emulsifying it, leading to productivity increases.

In each of the above applications, Tyson has found that the Discflo pump outperformed all existing designs in terms of reduced maintenance, pump wear and downtime. Their tests covered progressive cavity, positive displacement, centrifugal, chopper and air-diaphragm pumps.

Prior to the Arkansas order, Discflo pumps have been employed by Tyson Foods at their New Holland, PA, plant, handling a 5% solids, 200 SSU viscosity activated sludge. Installed in 1991, the Disc pumps have performed very well since start up. *As of January 2001, the pumps continue to run with no problems.*

The plunger pumps they replaced at New Holland had constant repair problems, due to abrasives in the sludge. The Discflo pump has not only eliminated breakdown and wear problems, but has also exceeded the expected flow. Designed for 100 GPM at 50ft TDH, the Disc pump is pumping over 250 GPM.

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

The Challenge

Poultry waste has large/stringy solids, frequently clog pumps

Entrained air in DAF sludge

Poultry fat is shear sensitive

The Discflo Solution

Discflo 'non-contact', smooth action prevents clogging by large/stringy solids

In tests, Discflo outperformed PC, PD, centrifugal, chopper, diaphragm pumps

Doubled flow rate in activated sludge service

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