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WHITE PAPER

Fluid Handling and Efficiency and Cost Savings

Setting The Bar In Fluid Handling

Discflo™ technology creates a low-to-no maintenance system by minimizing contact between the pump and the raw material being pumped. The results speak for themselves. Wear on the disc pump components is greatly reduced resulting in pump longevity, reducing operational costs and saving hundreds of thousands of dollars in parts, maintenance and product loss. The powerful combination of superior abrasion resistance, gas-entrained pumping ability and non-emulsifying laminar flow make the Disc pump the ideal choice for the toughest applications.

ABRASIVES

Because of the protective “boundary layer,” abrasives don’t grind and wear the surfaces of the rotary disc assembly. Even in very abrasive service such as fly ash or TiO₂ there will be little or no wear. There is no efficiency loss as a result of rotor wear. Rocks (1-112 - 4”) were trapped inside the casing of a Disc pump with a 2” discharge for several days as the pump continued to operate. Even after a beating like this, the interior of the pump suffered no damage.

ENTRAINED AIR AND GAS

So gentle is the non-impingement, laminar flow of Discflo pumps, bubbles don’t implode. They pass through the pump like solids. The pump handles fluids containing as much as 70% entrained air or gas. This means no foaming, frothing or vapor-locking.

SUPERIOR PRODUCT PROTECTION

Just imagine the impact of no-impact pumping on your shear-sensitive and delicate products, not to mention your bottom line.

In a Disc pump there is no impact from blades or other impingement devices - only fluid-on-fluid in a nonturbulent flow through the pump. Discflo pumps are in a class by themselves in the protection of delicate and shear-sensitive products. In many cases product damage can be completely eliminated. It’s one of our biggest success stories and has made Discflo the pump of choice for many applications in pulp and paper, food processing, chemical manufacturing, and a host of other industries where product integrity is critical.

Product losses were eliminated at a juice plant in the United States. The juice contains very delicate and shear-sensitive gelatin fruit spheres. All previous pumps tried in the application degraded the product. Losses ranged from 20 to 40 percent. With the nonimpingement laminar flow of the Disc pump, product losses fell to zero.

VISCOSITY

There isn’t another pump in the world that’s as powerful as the Disc pump when it comes to viscous product. With viscous drag, the fluid literally moves itself through the pump. The Disc pump actually becomes more efficient with increasing viscosities. The pump easily moves fluids with viscosities up to several 100,000 cPs. At viscosities greater than 350 cPs Disc pumps need less power than similar-sized centrifugal pumps.

A major U.S. paper recycling plant uses a Discflo for stock with consistencies of 8 to 18%. Discflo is the only pump that can do it without dilution. The ability to handle high viscosities can eliminate Storage and vacuum systems, and save water and power, too.

SOLIDS

Up to 80% solids by volume can be pumped without clogging. The pump has a unique open design and requires no close tolerances so even large and stringy solids won’t get trapped or tangled inside.

A chicken processing plant couldn’t find a pump that could handle their poultry waste without clogging. Then they found Discflo. Chicken parts, bones and even whole chickens pass easily through it’s open, no-close tolerance design.



Nothing has less impact on your product

Disc pumps won't smash, pulverize, emulsify, shear, grind, tear, shred, or otherwise destroy your product

Unparalleled Economy

The Disc pump is so durable that as long as the seal is protected you can run it bone dry and as long as there's seal flushing you can even deadhead the discharge and starve the suction at normal operating speeds, without damaging the pump.

LITTLE MAINTENANCE REQUIRED

The pump wears so slowly that spare parts and maintenance requirements are reduced dramatically, over 90% in many applications.

DISC PUMPS NEED FEW (IF ANY) SPARE PARTS

The Disc pump comes with no recommended spare parts list, simply because it rarely needs them.

THERE IS LITTLE OR NO DOWNTIME

Regularly scheduled maintenance for normal bearing lubrication and seal flush is generally all that's needed to keep the pump operating. Unplanned downtime due to pump failure is rare.

Made to Last

The Disc pump is competitive in initial capital costs, but in hard-to-pump applications, it has a life-cycle cost significantly lower than all other competitors.

The pump is designed to handle viscous, abrasive, air entrained and shear-sensitive fluids. In these applications, conventional pumps require parts and repairs in their first year of service that exceed their initial purchase price, two or three times over.

The Discflo's non-impingement design suffers so little wear that repair and part requirements are dramatically reduced, often by as much as 90%.

Non-impingement pumping produces higher product yields of better quality, because it doesn't damage or emulsify shear-sensitive solids.

Look at the total costs of buying and operating a pump and take into consideration downtime, labor, spare parts, and changes in product yield or quality, you will find that there is no better buy

NOTHING COMES CLOSE TO A DISC PUMP IN PROTECTING SHEAR-SENSITIVE AND DELICATE SOLIDS

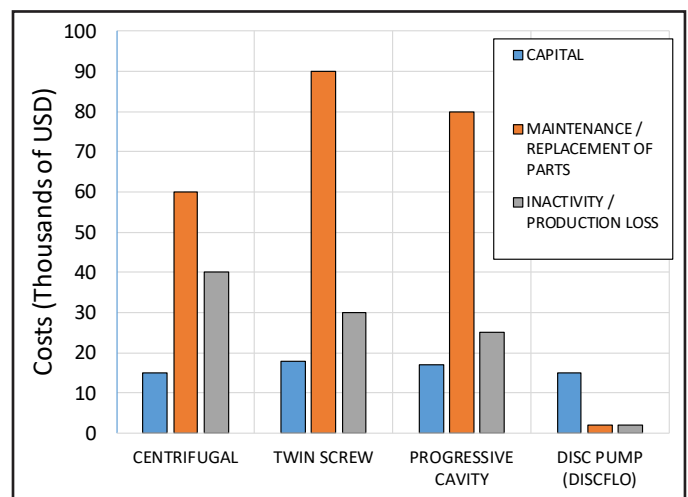
In case after case, end users have reported dramatic yield increases. Discflo virtually eliminates product losses in many applications.

HEAVY DUTY SHAFT - NEAR ZERO RADIAL AND AXIAL LOADS

There is less than 0.002-inch shaft deflection under the full-load, full-speed pumping. This extends the life of the shafts, seals, sleeves, and bearings. The bearings in a Disc pump will last in excess of 80,000 hours with proper lubrication.

ENERGY EFFICIENT

In most applications, energy requirements are about the same as most other conventional pumps. However, the Disc pump uses less power than other pumps when handling highly viscous material. Because of the viscous drag principle it becomes more efficient as viscosity rises.



The Disc pump - over its lifetime - will cost many times less than any other type of pump in the same service.