DISCFLO

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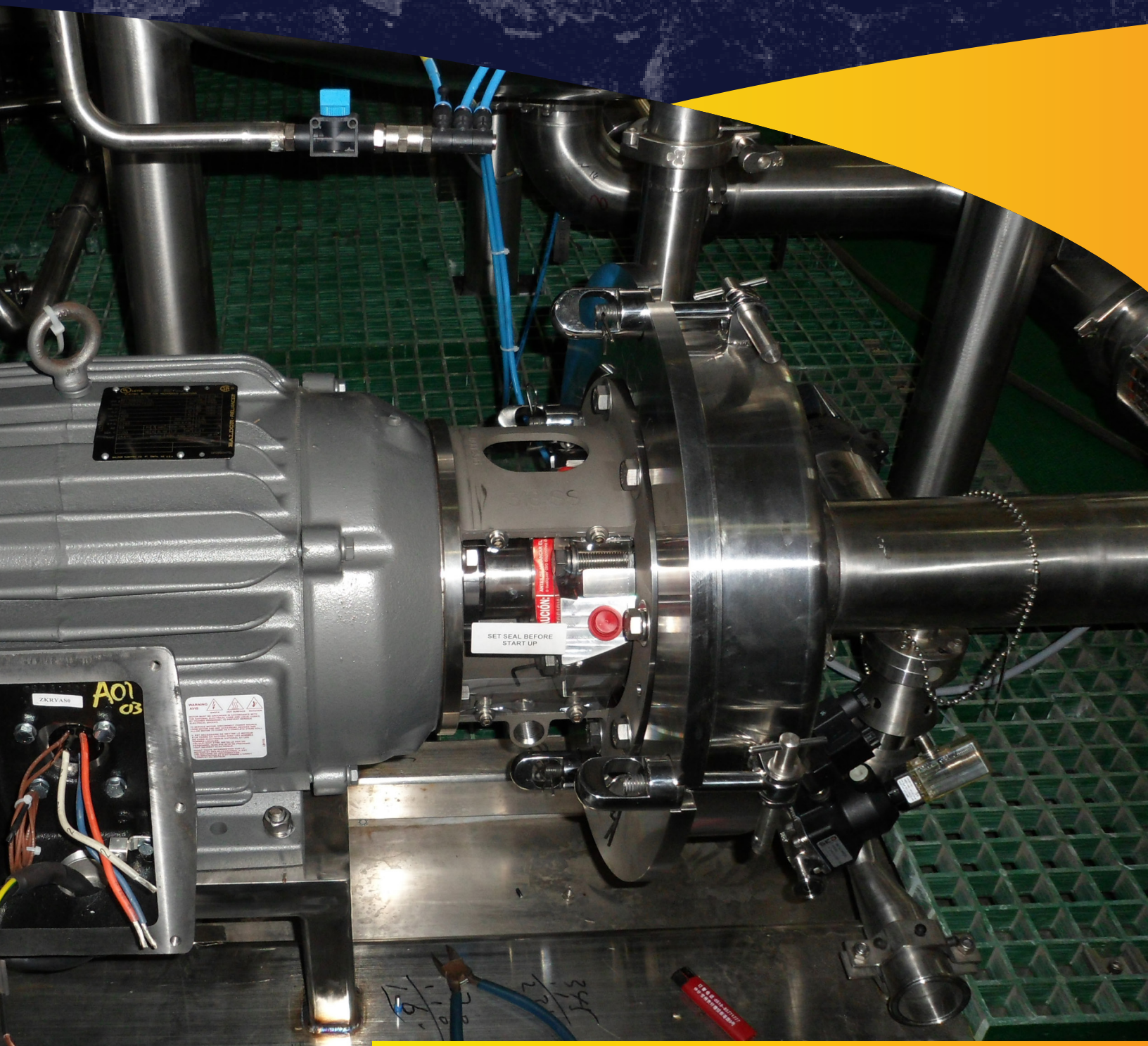
DISCFLO



SANITARY PUMPS

INTRODUCTION

DESIGNED FOR sanitary applications in the food, beverage, dairy, bio-medical & pharmaceutical processing industries.

PUMPS abrasive, viscous and/or high solids fluids

ELIMINATES damage to delicate and shear sensitive products

BUILT to meet 3-A sanitary and international hygiene standards and USDA requirements

ZERO PRODUCT LOSS WITH ‘DELICATE’ PUMP

DAILY JUICE COMPANY, VERONA, PA

Product losses for a new line of juices have fallen from as much as 40% to zero at the Daily Juice Company’s Verona plant in Pennsylvania thanks to the Discflo Disc pump technology. The juice contains extremely delicate gelatin fruit spheres. The previous positive displacement pumps damaged as much as 40% of these spheres.

Sanitary Model 302-10 Disc Pump meets 3-A requirements

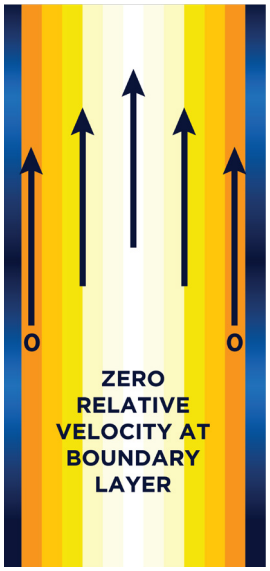
The Discflo pump, on the other hand, uses a ‘non-impingement’ pumping mechanism, coupled with smooth, laminar, vibration-free flow through the pump, and no close tolerances. This has reduced product losses to zero. The Sanitary Model 302-10 Disc pump, designed for 35 GPM at 44 ft TDH, was installed in early 1997 by Discflo distributor The 84 Group

100% American Made Since 1982

HARNESSING THE POWER
OF BOUNDARY LAYER VISCOUS DRAG

The non-impingement and laminar flow pumping of the Disc pump is similar to flow through an ordinary pipe. The layers of fluid at the walls are stationary (relative to the rotating discs), creating a protective boundary layer. Viscous drag pulls layers into flows of smooth laminar streams.

• Disc pumps operate on the principles of **Boundary Layer** and **Viscous Drag**. The application of these principles is new in the world of pumps but widely used in other areas of fluid engineering, such as causing friction loss through a piping system. Under laminar flow conditions, streams of liquid travel at different velocities through a pipe, with the layer closest to the pipe being stationary - known as the **Boundary Layer** - and successive fluid layers flowing faster toward the center of the pipe.

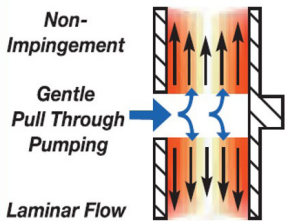


Discflo™ disc pumps employ the principles of Boundary Layer and Viscous Drag, to produce pulsation-free laminar flow. Typical pipe flow showing Boundary Layer and Viscous Drag Hydraulic Principles.

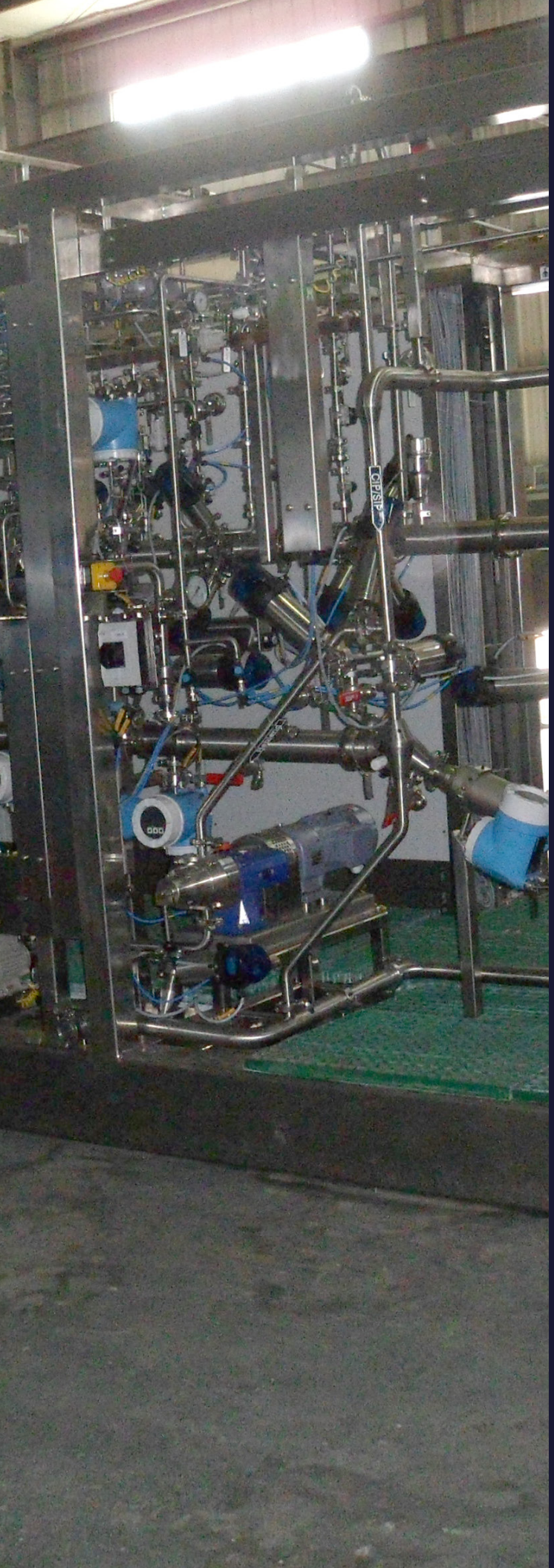
• Similarly, when a fluid enters the disc pump, a boundary layer is formed on the surfaces of the Discpac, a series of parallel discs which form the pumping mechanism. As the discs rotate, energy is transferred to successive layers of molecules in the fluid between the discs via the **Viscous Drag Principle**, generating velocity and pressure gradients across the width of the Discpac. This combination of boundary layer and viscous drag results in a powerful force that "pulls" the product through the pump in a smooth, pulsation-free flow.

• The fluid being pumped moves parallel to the Discpac, so it does not impinge on the moving parts of the pump. It is this **Non-Impingement** and **Gentle Pull-Through** pumping action which distinguishes the Discflo™ pump from other pump systems on the market, all of which use some kind of impingement device to "push" product through the pump.

Boundary Layer/Viscous Drag
Unique Pumping Principle



• By minimizing contact between the pump and the material being pumped, wear on the disc pump components is greatly reduced, pump downtime is rare and in the case of shear sensitive materials, damage to the product by the pump is eliminated. The disc pump's problem-solving ability in hard-to-pump applications is unparalleled in the world of pumps. . . making the Discflo™ truly the future of pump technology.

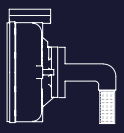


The disc pump can solve some of the toughest pumping problems in the sanitary market. It is able to pump delicate food stuffs such as corn, soft fruits, sugar crystals and fish, without damaging the product, and highly shear sensitive products like animal fats, dairy products, and citrus oils, without emulsifying the product, thereby increasing yields. In non-food industries, the pump is able to move delicate products such as blood platelets, enzyme solutions and catalysts without destroying the integrity of the product.

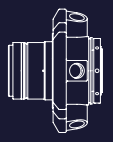
A FEW APPLICATIONS WE **SUCCESSFULLY PUMP:**

AFFINATION MAGMA
ANIMAL BLOOD
APRICOTS
BABY FOOD
BAKERY SLUDGE
BANANA PUREE
BARLEY
BATTER
BEEF TALLOW
BEER
BLUEBERRY
BONE CHIPS IN WATER
BREWERY WASTE
BUTTER
CAKE PREMIX
KETCHUP
LIVE FISH
MAGMA C
MALT EXTRACT
MARGARINE
BIOTECHNOLOGY
BLOOD
ENZYME SOLUTION
LIVING CELLS
PHARMACEUTICALS
VITAMIN OILS

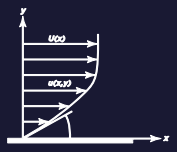
DISCFLO **ADVANTAGES**



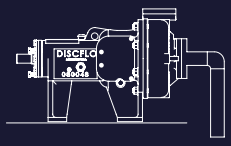
NO PULSATION



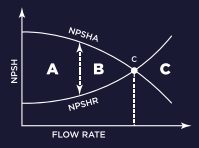
LONGER SEAL LIFE



LAMINAR FLOW

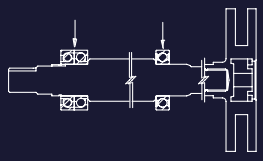


HIGH SUCTION LIFE CAPABILITY



VERY LOW NPSH

EXCELLENT MEAN TIME TO REPAIR (MTTR)



NO RADIAL LOAD

EXCELLENT MEAN TIME BETWEEN FAILURE (MTBF)

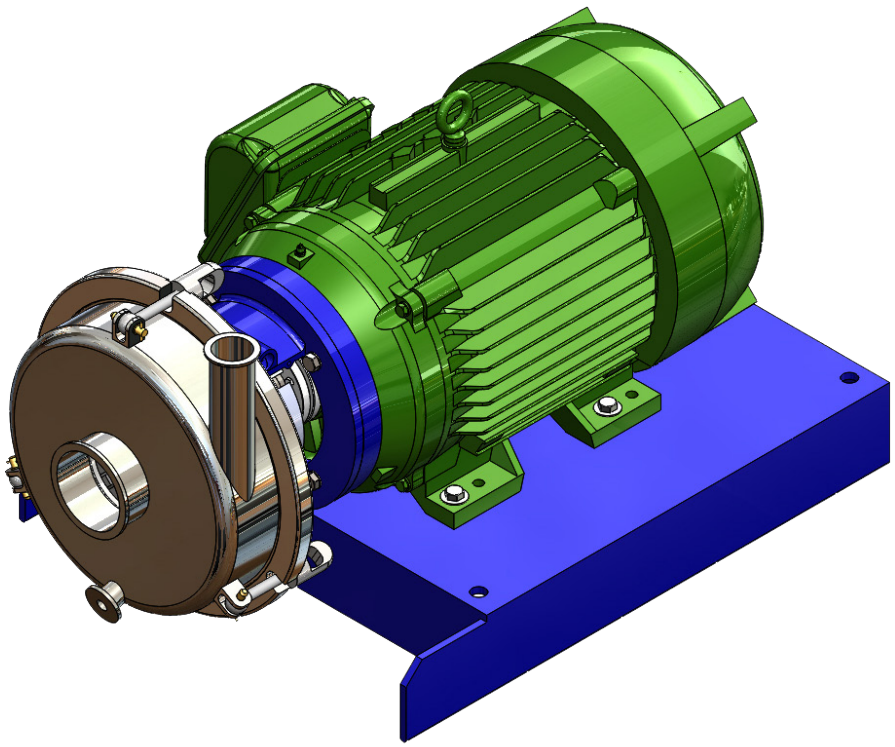
DESIGN FEATURES AND OPTIONS

- Supplied in Clean-in-Place and Steam-in-Place versions, to suit application.
- Close-coupled and frame-mounted models available.
- Variety of sanitary flanges available, in addition to ANSI and DIN flanges.
- Standard pump casing with increased suction size available for highly viscous liquids.
- Electrical motor, either three-phase, or single-phase, available in all domestic and foreign voltages.
- All metal product areas are 316L stainless steel with minimum 150 grit surface finish to meet 3-A and international hygiene standards, USDA requirements.
- Two standard seal designs are used: external balanced seal with water cascade and water-pressured balanced double seal. Other types of seal are available on request.

The SP Series of Sanitary Disc Pumps are an engineered product, manufactured to meet 3-A and international hygiene standards, and USDA requirements. They are configured to meet users needs by varying the size and spacing of the two discs in the Discpac.

TYPES OF FLUIDS PUMPED

• Delicate and Shear Sensitive Products • Highly Viscous Fluids • Fluids Containing Large and/or Stringy Solids • Slurries with a High Solids Content • Severely Abrasive Fluids • Fluids with High Volumes of Entrained Air/Gas



Pharmaceutical and Food Industry Companies We Succesfully Service:

ALFA LAVAL

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DANISCO

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