Liquiflo™

HIGH-QUALITY
Gear Pumps for the PULP & PAPER Industry

Liquiflo™ Rotogear® External Gear Pumps

for Metering, Transfer, Circulation and Injection Applications

What makes these tough pumps so appealing? They're heavy duty, long-lasting and reliable. In addition, they are easy to maintain and repair, and versatile, as the application list on the front shows. Their flow is smooth and pulseless – excellent for metering applications – and always ready to accommodate papermill processes and chemistry changes.

To offer the optimum selection for your demanding polymer and chemical-delivery applications, Liquiflo Rotogear® pumps are available in a useful variety of corrosion-resistant materials for gears, shafts, bearings and housings.

Many mill operators are seriously looking at the benefits of magnetically-driven pumps over high-maintenance double mechanical seals. These seals must be flushed to avoid crystallization, with the flush water sent on to waste treatment. Even with such constant attention, the seals frequently incur damage and require replacement. On the environmental front, mechanical seals never completely avoid emissions, as opposed to magnetic-drive pumps which completely contain the pumpage.

Dependability & Versatility for the Global Pulp & Paper Market

In a German paper mill, a Liquiflo™ Rotogear® pump transfers a solution of Sodium Hydroxide and bleaching compound through a quarter-mile long ring pipe. Liquiflo's range of high-alloy materials of construction offered excellent specification options to deal with the harsh chemicals. This pump was selected with a sealless magnetic-drive to ensure leak-free and low-maintenance operation.

Applications in the Pulp & Paper Industry for Liquiflo Gear Pumps

- Alum feed for pH control and charge neutralization on the paper machine
- Sodium Aluminate for charge control on paper machine and internal sizing
- Internal Size addition to the wet end of the paper machine
- Sulfuric Acid and Sodium Hydroxide metering at various points in the paper mill including the pulp mill and the waste treatment plant
- Liquiflo pumps are widely used in a variety of applications pumping proprietary & specialty chemicals for wet and dry strength addition in the paper making process
- Adding proprietary chemicals to the recycled fiber process to break down fibers in the recycled products
- Sodium Silicate and Silica addition used in retention aid application on the wet end of the paper machines
- Polymer transfer and feed for both neat and made down anionic and cationic polymers used for retention aid on the paper machine
- Neat and made down cationic and anionic polymers in the waste treatment plant

Another success story:

Mill solves spent acid handling problems with special gear pump:

A Paper Mill in Oregon produces chlorine dioxide on site for use in its bleach plant. The process produces effluents – chlorine dioxide gas, which is sent to an absorption tower, and a "spent acid" which is subsequently mixed with the plant's black liquor and processed to produce sodium sulfite.

Spent acid is a difficult liquid to handle. Its chemical composition includes 30% sulfuric acid, 20% sodium sulfate, and minor percentages of sodium chlorate, sodium chloride, chlorine dioxide and chlorine. The Mill maintains the acid at 100˚F and crystal formation causes many problems for the process equipment.

A Liquiflo sealless mag-drive pump met the Mill's stringent criteria. All wetted parts were made of corrosion resistant materials (PVDF, Teflon, Alloy-C and Silicon Carbide). The pump was installed with a 1.5 Hp, 1750 RPM AC motor and a variable frequency drive. The drive was equipped with a 4-20 mA analog signal board so that a truly automated variable flow system was built. Reversing flow to back flush the lines was not a problem for Liquiflo's spur gear pump, and the pulseless flows permitted reliable measurements of flow rates downstream.

Liquiflo Rotogear® Pumps handle many difficult pumping applications in the Pulp & Paper Industry

The Rotogear® 3-Series & H-Series Mag-Drive Pumps are used for many diverse applications in the Pulp & Paper industry, including polymer, chemical, petrochemical and wastewater applications.

The Mag-Drive option is available on all Liquiflo Rotogear® positive displacement pumps (and Endura dry-running centrifugal pumps). Ask your distributor for a demonstration.

Application engineers, both at Liquiflo company headquarters and at Liquiflo's family of distributors, are experts at selecting and sizing Liquiflo pumps to work reliably with your mill's special chemistry. They know your industry, and they'll match your needs with the capabilities of our pumps.

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Liquiflo Rotogear® Pumps handle many difficult pumping applications in the Pulp & Paper Industry

Liquiflo Rotogear® Pumps have solved many pumping problems for the Pulp & Paper industry due to their versatility, reliability, and pulseless flow. Rotogear® Positive Displacement High-Alloy Pumps can handle many difficult chemical pumping applications associated with the production of Pulp & Paper. For decades, Liquiflo™ has met the needs of this worldwide industry by supplying quality pumps. For many pulp, paper and paperboard services, Liquiflo Rotogear® External Gear Pumps are the pumps of choice.

Challenge Us With Your Toughest Pumping Applications

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Typical Applications:

- acids
- alum services
- Basoplast 335D
- Berocell
- biocides
- bleach
- calcium carbonate
- caustics
- chemical injection
- coating preparation
- color addition / dyes / pigments
- defoaming agents
- de-inking chemicals
- dispersants
- DTPA
- fillers
- flocculent polymers
- hook-up pump (portable)
- latex (mag-drive)
- machines
- metering
- methanol
- molten sulfur
- pitch control
- polymers
- polymer & starch makedown
- polyvinyl alcohol
- resins / glues
- retention aid on paper
- salt & brackish water
- sampling
- secondary / tertiary sludge
- security chemicals
- sizing agents
- slimicides
- sludge dewatering
- soap (black / white liquor)
- sodium chlorite ($NaClO_2$)
- sodium hydroxide (NaOH)
- sodium hypochlorite (NaClO)
- sodium sulfide (Na_2S)
- starch
- sulfuric acid
- wastewater management
- wet-end chemistry
- wet strength agents