YOUR PUMP SOLUTION
PULP AND PAPER INDUSTRY
The variety of products made by the pulp and paper industry make it one of the most technically demanding industries. Manufacturing paper products requires a variety of specialized and high-tech machines and techniques. Pumping technologies in this industry must be precisely selected and applied, and consider all the different types of fibers, coatings, preparations and finishes used.

SEEPEX pumps are successfully used throughout the entire manufacturing process.

- Stock preparation and treatment
- Preparation of secondary fibers
- Paper finishing
- Coating kitchens
- Bleaching
- Wastewater treatment
- Additives (colors, flocculants, sizing, creping and release agents)

Due to global competition, rising energy costs and strict environmental laws, state-of-the-art technology that is geared towards efficiency and reduced operational costs is a critical factor that will determine the viability of a pulp or paper mill.

SEEPEX pumps are especially suited for this demanding industry, because they offer the following benefits:

- Convey thin to highly viscous products with or without solids
- Pump high temperature products
- Minimal pulsation
- Low shear rates
- Abrasion resistance
- Precise flow control
- Accurate metering of additives for product consistency
- Low NPSHr

Since 1972, SEEPEX – an international leading specialist in the field of pump technology with progressive cavity pumps, macerators, control systems and digital solutions – has risen to the challenge. We offer a superior range of customized products with technically and economically optimized solutions.

Our pump systems take into account the strictest environmental regulations and our patented Smart Conveying Technology (SCT) ensures high operational reliability and reduced downtime. The modular design system with a variety of market-specific product groups and high-performance ranges allows for a perfectly tailored pumping solution for every application. Each pump is designed according to the unique requirements of each industry, application, work site and conveyed product.

Another SEEPEX advantage: World-class range of services throughout all the stages of the pump life to secure long-term value of the pump and ensure optimal operation and significantly reduced life cycle costs.

Highest value and energy efficiency, customized pump systems and economic solutions: This is what SEEPEX pumps deliver to the pulp and paper industry.
OUR PUMPS IN PAPER PROCESSES.

APPLICATIONS
1. BN range pumps convey dyes, fillers and glue to the proportioning system.
2. BN range pumps convey waste paper to stock preparation or within the deinking process.
3. BN range pumps convey recycled paper materials for deinking.
4. BN range pumps convey waste pulp, waste ink and wastewater to wastewater treatment plants.
5. Product group T pumps convey fibrous materials and waste paper to bleaching or stock preparation.
6. BN range pumps convey glue and starch to the forming rollers.
7. BN range pumps convey coater from the tank to the mixer.
8. BN range pumps feed the coating agent to the coating system.
9. BN and MD range pumps convey and meter additives for tissue and non-woven fibers.
10. Product group T pumps convey bleached fiber to the stock preparation.
TISSUE & NON-WOVEN FIBERS.

BACKGROUND
The market for tissue and non-woven fibers has exploded in recent years with these products being used in everything from household cleaning cloths to medical and industrial products. The basic raw material for these products is recycled paper, meaning it’s primarily a domestic market in every country.

TASK
A series of steps are required to process recycled paper into tissue and non-woven fiber products: from deinking and stock preparation to the careful metering of additives such as colors, fragrances, aloe or creping agents for texture. Shear-sensitive raw materials and the subsequently produced by-products require gentle handling and high safety standards – especially with increasing industry regulations. For this highly competitive market, low maintenance and energy costs along with reliable and repeatable operation of the pumps is imperative.

SOLUTION
SEEPEX pumps have been successfully used in this industry to transport low to highly viscous products with high metering accuracy and a low net positive suction head (NPSH).

Open hopper pumps from product group T gently convey and process raw materials and by-products while BN pumps fitted with Smart Conveying Technology (SCT) offer minimal pulsation pumping and reduced energy/maintenance costs.

CONVEYED PRODUCT
- Secondary fibers
- Coatings
- Dyes
- Flocculants
- Mechanical wood pulp
- Calcium carbonate

KEY SPECIFICATIONS
- Predictable flow
- Reliable and repeatable operation
- Cost savings
  - Reduced maintenance
  - Reduced energy costs
  - Reduced chemical consumption

PAPER & COATED PAPER.

BACKGROUND
Paper production supplies the world with uncoated and coated paper, which is used in a variety of everyday materials such as newspapers, books, copy paper, magazines and household paper items. Both products are a staple all over the globe and a sustainable growth industry.

TASK
Raw paper starts with stock preparation. Fibrous materials are mechanically and chemically treated, mixed with additives and water and then conveyed to the paper making machine. Coated paper is sent to the “coating kitchen”, where the coating is formulated and mixed in a continuous process. It can then be applied on the same paper machine or to an “off-machine” coater. The coating must be free of sticky particles that can ruin the paper if they adhere to the doctoring apparatus. Pulsations of the liquid also have to be avoided since they manifest variances in the coating thickness. Another challenge is that pressure can be moderately high as the coating is pumped through continuous filtration devices. SEEPEX has further developed our pumps to master these specific needs.

The massive paper machines require pumps that carefully transport, meter and mix starch, size, color and glue solutions. This means creating an endless sheet of paper is technically difficult and complex. This highly competitive marketplace also demands low maintenance and energy costs with reliable pump operation.

SOLUTION
SEEPEX progressive cavity pumps are ideally suited to this industry due to their special design. They precisely convey and process the raw materials and by-products for paper and coated paper. Low to highly viscous products are transported very gently with minimal pulsation, low NPSH, high metering accuracy and repeatability and adjustable speed for precise flow rates.

CONVEYED PRODUCT
- Binding agents
- Calcium carbonate
- Coating color
- Pigments
- Clay
- Latex
- Lubricants
- Paper stock

KEY SPECIFICATIONS
- Low shear
- Abrasion resistance
- Precise, even coating thickness

COST SAVINGS
- Gently transportation protects the product
- Low maintenance costs
PACKAGING.

BACKGROUND
Packaging paper, boxboard, kraft paper and liner board are in high demand, especially because of increased online shopping worldwide. Packaging is used in virtually every market – not only to ship products, but also to protect the products themselves.

TASK
Packaging of all types requires high strength paper, which means a heavier workload in processing the raw materials. Fibrous materials are mechanically and chemically treated, mixed with additives and water and then conveyed into the forming system. Further processing to coat or laminate the paper using pigments, adhesives and additives may be required, and can be applied to both sides of the paper surface to create the proper texture and optical finish. SEEPEX pumps can be an essential part of an ink manufacturing plant. The same characteristics that make these pumps so efficient and effective in coating kitchens are also valid in ink plants.

The sheer volume of raw materials processed for the packaging industry requires the highest quality components, optimized design and manufacturing capabilities – resulting in long pump life and low operating costs. Minimal pulsation and adjustable speed for precise flow rates are also imperative.

SOLUTION
Because of their special design, SEEPEX progressive cavity pumps are perfectly suited for conveying and processing raw materials for packaging paper. Low to highly viscous products are transported throughout the entire manufacturing process using exact metering capabilities. Our pumps also offer low maintenance and energy costs.

CONVEYED PRODUCT
- Kaolin clay suspensions
- Cellulose
- Secondary fibers
- Coatings
- Dyes
- Flocculants
- Mechanical wood pulp
- Polymer solutions
- Resin sizing agents
- Lubricants

KEY SPECIFICATIONS
- LONG PUMP LIFE
- ADJUSTABLE SPEED
- COST SAVINGS
  - Exact metering reduces waste
  - Reduced energy costs
INNOVATIVE SCT PUMPS.

Smart Conveying Technology (SCT) means faster maintenance as the time taken to replace the rotor and stator can be reduced by up to 85% and there is less downtime and significantly reduced life cycle costs.

The patented design enables the rotor/stator sealing line to be adjusted to suit the application and to compensate for wear—leading to more than double the lifetime of the rotor and stator. The Smart Stator and Smart Rotor also allow for simple maintenance to be carried out by one person, without the need for special tools.

SEEPEX pumps with SCT are successfully utilized in virtually all industries, applications and media.

KEY SPECIFICATIONS

EXTENDED STATOR LIFE BY 200%

ENERGY SAVINGS

RAPID MAINTENANCE

SMART STATOR
Two, comparatively light, stator halves.

SMART ROTOR
With detachable rotor head connection for fast assembly/disassembly, while leaving the universal joint intact.

ADJUSTING SEGMENTS
For positioning and axially sealing the stator halves, adjusting the stator clamping and retensioning the stator halves.

SEGMENT RETAINER RINGS
For positioning and radially sealing the stator halves and locating the adjusting segments.

YOUR PUMP SOLUTIONS AT A GLANCE.

SEEPEX pumps transport thin to highly viscous products with or without solids at low to high temperatures, gently, with minimal pulsation and low shear. They also feature excellent metering accuracy and problem-free pumping of coatings, starch and additives.

Product group N pumps are used in virtually all industries and processes. They have a service-friendly and compact design. The plug-in shaft connection between the drive and the rotating unit makes replacing the rotating wearing parts and shaft seal easier.

- Conveying capacity: 30 l/h–500 m³/h (0.13–2,200 USGPM)
- Pressure: up to 96 bar (1,400 psi)

Product group D pumps meter small quantities in virtually all industry sectors. They are especially suited for minimal pulsation conveying of low to highly viscous, solids containing and chemically aggressive media. Maximum repeatable metering accuracy is ensured.

- Conveying capacity: 0.06–1,000 l/h (0.016–264 USGPH)
- Pressure: up to 24 bar (350 psi)

Open hopper pumps in product group T handle highly viscous and non-flowable media. T pumps incorporate an open hopper and auger feed screws to suit specific applications. They are ideal for pumping thick, fibrous pulp with up to a 15% dry solids content.

- Conveying capacity: up to 500 m³/h (2,200 USGPM)
- Pressure: up to 36 bar (525 psi)

INNOVATIVE SCT PUMPS.

BN RANGE

MD RANGE

BTVE RANGE

SEEPEX pumps with SCT are successfully utilized in virtually all industries, applications and media.

KEY SPECIFICATIONS

EXTENDED STATOR LIFE BY 200%

ENERGY SAVINGS

RAPID MAINTENANCE

SMART STATOR
Two, comparatively light, stator halves.

SMART ROTOR
With detachable rotor head connection for fast assembly/disassembly, while leaving the universal joint intact.

ADJUSTING SEGMENTS
For positioning and axially sealing the stator halves, adjusting the stator clamping and retensioning the stator halves.

SEGMENT RETAINER RINGS
For positioning and radially sealing the stator halves and locating the adjusting segments.