Systems and Components for the Pulp and Paper Industry

For any further questions, please feel free to contact our competent sales team. Our inside and outside sales team are always at your service!

www.flowtec.at
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Flowtec - About us

We are general agent and partner of leading international manufacturers and specialists in the fields of systems and components for the pulp and paper industry and industrial valves.

We have already been offering our international customers an extensive product range for many years. Our expertise is based on many years of experience, in-depth know-how and the possibility to offer solution-oriented concepts at a good price-service ratio.

Flowtec - Systems and Components

Our product range covers investment, replacement and wear and tear components for the pulp and paper production.

We work together with renowned and leading manufacturers within the pulp and paper industry.

Next to our wide product range, we will be pleased to support you further by conducting on-site audits of your systems and subsequently presenting you improvement possibilities and methods to increase your efficiency.

Let us be the strong and reliable partner on your side.

Flowtec - Industrial Valves

Our wide product range covers industrial valves manufactured by internationally leading companies for almost all applications and requests. We will be pleased to advise you and to be your competent partner from the planning phase through product selection to the initial operation. Our employees have more than 30 years of experience within the pulp and paper industry, as well as in the general industry.

With Flowtec you have an experienced partner by your side. We are specialized on handling projects of any size professionally and reliably for our customers.

Contact Details

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Sales Regions

Flowtec operates mainly in Europe. The regions include Austria, with Flowtec’s head office, and the Eastern European region.

Apart from Slovakia and the Czech Republic, Flowtec serves customers in Poland, Hungary, Romania, Slovenia, Croatia, Bosnia Herzegovina, Serbia, Bulgaria, etc. You can always count on our competent sales team in the respective country.

We would be glad to assist you! Please contact us.
FLOWTEC offers a self-cleaning, fully automated filter system for the filtration of different media

In the area of filtration technology, Flowtec offers the CTF filter systems, which are designed to be used for filtration of low-viscosity media like water with very high throughput, as well as for filtration of highly viscous, abrasive or sticky media. The CTF filter is fully automated and impresses through extremely low media losses during the cleaning process. CTF filter systems cover most filtration requirements in various industrial fields. CTF systems are suitable for new installations as well as for the conversion of existing filters and have been very successful on the market over years.

CTF - Liquid Filter Systems

The CTF filter line is based on years of experience in the pulp and paper industry and offers solutions for almost all liquids. The self-cleaning and purging system is automated and requires a minimum of maintenance or manual cleaning. Product losses are at a minimum, only dirt is purged and no disposal cost appear. From simple water applications to high viscous liquids, we offer solutions for most of your applications.

CTF04-SP
- Flow rate up to 500 l/min at 100 micron
- High pressure filter up to 40 bar
- Applications up to 10 bar

CTF09-TP
- Flow rate up to 1,500 l/min at 100 micron
  for smaller applications
- For applications up to 10 bar
- We offer an option without cleaning for simple nozzle protection applications

CTF16-TP
- Flow rate up to appr. 2,600 l/min at 100 micron
- This filter is perfect to replace bag filters in chemical applications or for cooling water for mechanical seals
- For applications up to 10 bar
- Retention from 25 – 1,500 micron

CTF32-TP
- Flow rate up to appr. 4,300 l/min
- This filter is designed for coating, size, starch or water applications and offers a simple and functioning solution
- For applications up to 10 bar
- Retention from 25 – 1,500 micron

Spare Parts
- CTF spare parts: Nearly all spare and wear parts are available in stock and immediately deliverable.
- CTF automation: „Automation Packages“ are available for all CTF filters.
SELTEK offers filter systems and spare parts for nearly all existing systems on the market

The company name Seltek has a long tradition in the pulp and paper industry in Finland. Seltek Oy has originally started in 1956 as a family company and has worked ever since mainly in the pulp and paper industry. Today, the main focus lies on liquid filtration systems for all kinds of liquids. The main products are self-cleaning filter systems, which automate the disposal of the dirt out of the product flow. The aim is to run the filter systems with a minimum of maintenance or operators attention.

ADS - Press Filter
Press filter for filtration of coating colour, glue, pigments. Available in four different sizes.
- ADS-20 - Press filter
- ADS-30 - Press filter
- ADS-43 - Press filter
- ADS-80 - Press filter

ADF - Bag Filter
ADF-filter for filtration of raw materials like binders, colours and other chemicals.

WWS - White Water Police Filter
The WWS filter is designed to handle high loads of dirt, for example fiber in the pulp and paper industry. A constant cleaning action assures a good water quality with minimal energy consumption.

Spare Parts
Spare parts and expertise for Ronningen-Petter® and Metso RF/LF OptiScreen™–filter constructions with a fair price-performance ratio.
- R-P DCF filtersystem spare parts:
  Spare and wear parts for nearly all types of Eaton and Ronningen and Petter filter systems available.
- ADS and OptiScreen™ spare parts:
  Reparation sets and spare parts for self-cleaning mechanical filter systems.

Rebuilding Sets DCF2000 / DCF1600
Upgrade Kit for better cleaning performance of the scraper! Due to the rebuilding to an optimized scraper system, a close cleaning process can be achieved.
SOFI FILTRATION provides innovative, highly automated filtration solutions for demanding industrial applications

Sofi Filter

The Sofi filter is a true technological innovation: an automatically self-cleaning cross-flow filtration system that is easy to install and economic to operate. Sofi Filter ensures that the operator has clean water to use by separating even the finest solid particles from the liquid.

The Sofi filter is used in a wide variety of industries: Flue gas condensate treatment in power plants, pre-filtering before reverse osmosis, industrial textile to recirculate the wash waters and in minerals processing to prevent environmental pollution, just to name a few.

Key features:
- Long-life element (0.2 - 20 µm, stainless steel, no disposable filters)
- Self-cleaning (ultrasonic resonator, backpulse with filtrate, no chemicals needed)
- High cross-flow design (anti-fouling, high capacity, low energy consumption)
- No movable parts

SF 200
- Capacity: 0.5 - 5 m³/h
- Separation size: 0.2 - 20 µm
- Maximum pressure: 11 bar
- Measures: 50 x 50 x 100

SF 1000
- Capacity: 5 - 35 m³/h
- Separation size: 0.2 - 20 µm
- Maximum pressure: 11 bar
- Measures: 100 x 200 x 100

SF 8000
- Capacity: 40 - 280 m³/h
- Separation size: 0.2 - 20 µm
- Maximum pressure: 11 bar
- Measures: 200 x 400 x 200
Gravity Strainer

Application area
BSW gravity strainers are most commonly used in the pulp and paper industries to reduce the suspended solids concentration and to remove felt hairs and fibre bundles. Also to separate long fibres and process debris from recycled white waters.

BSW gravity strainers used for clarified water in papermaking are mostly used on water streams with 20 up to 600 mg/l (ppm) fibres.

Typical applications are the mill’s spray water systems, purification of sealing water from vacuum pumps, polishing of water from flocculation plants and cooling towers. The filter is also used for purification of intake water from lakes and rivers.

Types
The BSW gravity strainer is a self-cleaning system, which works under atmospheric conditions for water flows up to 12,000 l/min and is available in six different sizes.

- Capacity range: 400 to 12,000 l/min
- Filter media: 63 to 250 micron
- Motor: 0.25 - 0.37 kW, depending on filter size
- Material: Stainless steel EN1.4301 or EN1.4404 and EN1.4436.
Principle of Operation

The water is fed in tangentially between the outer and inner jackets of the filter vessel. The water flows up and over the edge of the internal vessel and down onto the strainer media. Unwanted solids/fibres are captured upon the strainer media, and clean water passes through the fine filter mesh, exiting at the bottom of the strainer vessel.

Cleaning is achieved by spray cleaning the strainer media in a novel way, “bottom-up cleaning”. Two spray bars positioned below the strainer media rotate in-line with the unique collection chambers located directly above the strainer media. These collection chambers catch the fibres/solids lifted by spray water from the screen surface, and feed them down towards the drain. Fibres are transported inside the collection chambers, not on the top of the strainer media.

Advantages

- The bottom-up cleaning technique is a major improvement to other designs that rely on “top-down” sprays to drive solids/fibres along the strainer media to a collection point.
- This top-down technique is less effective and less efficient in retaining fibres/solids, because the sprays can drive solids into or through the strainer media.
- The bottom-up spray continuously forces fibres/solids off the strainer media and lifts them into the reject pipe.
- It makes the BSW gravity strainer more effective and efficient in retaining fibres/solids, and provides an improved final filtrate.
- No bearings or seals positioned below the drive unit.
- Screen frames in two or four sections for easy handling.
- No problems with settling of fibres in inlet chamber due to tangential inlet connection.
- Bottom-up cleaning system and collection chamber is a major improvement over other designs.
- Easy to inspect and replace the two/four parts screen.
- Spray pipes with “self cleaning” nozzles purged by closing and reopening the ball valve at the spray pipe inlet as little as 2 or 3 seconds.
FLOOTECH is specialised in in the field of water treatment systems

Flootech is the worldwide leading provider in the field of water and waste water treatment. Present in Europe, America, Asia, middle East, Australia and Africa, Flootech offers complete solutions as well as water purification processes for different industrial fields. Flootech supplies customized systems for the preparation of untreated water, through process water recovery up to sewage treatment. Flootech is a company that operates worldwide within the industry and has more than 100 years of experience and know-how.

Water Treatment Systems

The product range covers everything from sorting to sedimentation, flotation, biological water preparation, up to membrane technology. Flootech stands for highest quality and reliability at innovative economic complete solutions and conventional water treatment processes for different branches of industry.

Floodaf Microflotation

An established tool for the recovery of process water. Microflotation is also used to reduce the concentration of fine substances and ash. The smaller units have been designed in a compact construction method, the larger units can be supplied in a building block system.

- Capacity: 5 to > 2,000 m³/h
- In-flow load: 100 to 7,000 mg/l
- Reduction in solids up to 99%
- Sludge consistency up to 5%
- More than 250 references worldwide
- Does not need much space
- Low maintenance costs
- Flexible for fluctuations in the process
Floobed MBBR

The FlooBed biological water cleaning is used in the industrial and community area. FlooBed is characterized by special elements and an improved mixture of air.

- Simple to operate
- Fast initial and subsequent start
- Insensitive for water quality and fluctuations in quantity
- No repeat flushing necessary

Boiler Plant Water Treatment

The boiler plant water treatment increases the efficiency of the boiler and extends the boiler’s operating life. Treating boiler water also insures safe and reliable operation and prevents high maintenance costs.

Our reliable solution for Boiler Feedwater consists of:

- Pretreatment
- FlooRO™ Reverse Osmosis
- FlooMB™ Mixed Bed Ion Exchanger

**FlooMB™ Mixed Bed Ion Exchanger:**

Polishing of the condensate is implemented in order to meet the high quality requirements of the high pressure thermal cycles and also to minimize the consumption of make-up water.

**FlooRO™ Reverse Osmosis:**

Reverse osmosis is the finest filtration known. FlooRO™ Reverse Osmosis is used to produce water that meets the high standard demands for water quality set by our customer.
GL&V Sweden AB in Karlstad is specialised in products and solutions in the field „Chemical Pulping“

GL&V Sweden AB is one of the leading manufacturers in this product area. On the strength of their own development department, they are constantly improving their products. GL&V’s technology is therefore based on the latest state of the art. The product portfolio of GL&V „Chemical Pulping“ includes, among others, solutions for cooking, washing, oxygen delignification, bleaching, MC-pumps, as well as mixers. Extensive experience combined with permanent research and further development ensure the high specialisation and quality standard in all areas of the company GL&V.

MC-Pumps and Mixers

DuFlo®-Pump
The new generation of the DuFlo® Pump excels in pumping of medium consistency pulp.

The clean and robust design with integrated vacuum pump and direct drive arrangement reduces the total installed cost and minimizes the need for maintenance.

- Low power consumption
- Low total installed cost
- Low maintenance cost

Dual-Mixer
Dual™ Mixer solutions are available for steam, oxygen, chlorine dioxide and ozone. The heavy duty design and the extended mixer house with optimized steam inlet nozzles ensure stable operation. Sufficient retention time for the chemicals at full fluidization of the pulp enables efficient and vibration free mixing at low maintenance costs.

Screening

HI-Q® Pressure Knotter
Der HI-Q® rejects separator is very compact and operates with a minimum of fiber loss to the washed and dewatered knots and coarse rejects.

The most important advantages:

- High unit capacity
- Low consistency, low volume rejects
- Efficient knot removal with minimal fiber loss
- Inward flow design protects rotating element and hydrofoils from damage while avoiding break-up of brittle knots
- Exceptional operating stability due to patented high-pulse, low profile hydrofoils
- Designed for continuous, remote, unattended operation

HI-Q® Fine Screen
High capacity and efficiency pressure screen for brown stock screening. Can be supplied with the Stingray rotor for proven performance or the new Luthi rotor for reduced wear and power. Smallest slots in the industry and minimum good fiber loss. Modular design uses the same bearing assembly as the HI-Q® Knotter and HI-Q® Rejects Separator. Great reputation in the industry with a very large installed base.
Wash Presses

Compact Press®

For higher outgoing consistency and excellent washing efficiency. The Compact Press® combines a new technology with well proven components. The specially designed inlet feeding screw enables a uniform distribution of pulp lengthwise at the same basic weight independent of inlet feeding consistency. If necessary, the Compact Press® can be opened and closed within 20 minutes.

Compaction Baffle Filter

The Compaction Baffle Filter with its compact design offers low level installation and investment costs compared to conventional washers.

Advantages:
- High washing efficiency
- Unique totally enclosed pressurized system
- Designed for brown stock and bleach applications
- High capacity per unit area of cylinder

Coru-Dek®

The Coru-Dek® incorporates our corrugated deck into a high capacity center drainage cylinder design. Curved drainage tubes and an integral bucket design provide structural integrity. A flat valve allows for maximum hydraulic capacity. Solid shafts and antifriction bearings ensure low maintenance and allow for flexible drive options.
Bleaching Systems

DualOx® - Oxygen Delignification
An optimized two stage oxygen delignification process. The two stage oxygen delignification process enables an overall optimization both with regards to kappa reduction and selectivity. This design is particularly useful for softwood kraft mills.

DualD™ - Bleaching Stage
DualD™ hardwood bleaching reduces the consumption of chlorine dioxide and the effluent load at increased brightness and improved brightness stability.

The DualD™ bleaching stage consists of an upflow and a downflow tower, which enables good control of the total retention time and eliminates the need for a scraper or other parts requiring maintenance on top of the tower.
GL&V, which is based in Finland, offers simply smart solutions and services for the stock preparation in the paper industry. GL&V offers products and services for stock preparation processes, which are based on innovative thinking and new product solutions. With new technology and technical solutions, the pulp production economy can be improved and new, more economical raw materials can be utilised. GL&V aims to find process solutions that have the best pay-back for the investment. All members in the team have more than 20 years of experience regarding different paper mill processes.

Pulping Systems

TamPulper R
Pulping and coarse screening for waste paper in one step.
- Process for difficult recycled waste paper grades
- Low energy consumption and high pulp quality
- Low total investment because the system is simple and has less equipment and auxiliaries than a conventional system.
- Continuous and compact system
- Low maintenance costs of equipment because heavy rejects will be removed in early stage of the process → not recirculated in the system. This essentially reduces the wearing of equipment.

TamPulper B
Advanced new bale and broke pulping
- New pulper techniques with an effective special rotor for bale and broke pulping
- Power consumption of the TamPulper rotor is the same or lower than with a conventional rotor. In spite of that, stronger agitation than with a traditional rotor will be reached.
- Compact hutch due to a better mix intensity
- Existing pulper can be rebuilt by a new TamPulper rotor and a stronger agitation and higher production can be reached.

TamPulper R and B
Modification of existing machines / systems
A replacement or supplementation with Tam-Pulping products helps you to reach a better pulping result, lower loss of fibers and lower wearing.
Fine Screening

A complete selection of new fine screens has been developed. They are applicable in fine screening e.g. for recycled fibres, mechanical pulp, broke screening and machine screen applications. The rotor design allows more flexible process and the screen hardware can be more compact.

A new generation of multi stage screening in addition to single stage screens is available. Together both screen types offer a complementary series, which gives a high flexibility to build different screen rooms with lower energy consumption and with lower investment.

TamScreen™

- Single Stage
  The increased fluid flow in the vertical direction causes a better exploitation of the screen basket area. The special rotor allows a low energy consumption and thickening rate.

- Multi Stage
  Two stages combined in one machine. With these machines you can achieve energy savings and easier system configurations.
GL&V Sweden AB is one of the leading manufacturers for equipment for the pulp and paper industry. On the strength of their own development department they are constantly improving their products. GL&V’s technology is therefore based on the latest state of the art. The product portfolio covers all kinds of cleaner plants, for heavy as well as light weight reject, deaeration systems, disc filters for fibre recovering and thickening, as well as refiners, drum thickeners, bow screens, etc. Extensive experience combined with permanent research and further development ensure the high specialisation and quality standard in all areas of GL&V.

Cleaner Plants

Twister®

Cleaning performance at a new level and at the same time less energy consumption! The Twister® is the latest development in separation technology and the only cleaner on the market that achieves such a high efficiency at 2% feed consistency. Due to its innovative design and state-of-the-art technology it is a high-performance cleaner with high consistency results and low energy consumption.

Characteristics:
- Up to 2% feed consistency operation with comparable cleaning performance as conventional cleaners at 1%.
- Superior cleaning performance over entire operating consistency range
- Up to 50% lower applied energy
- Considerably lower reject rates than with conventional cleaners
- Cellco Twin Wall design

Cleanpac®

700, 700 HQ, 700 LD, 700 HQLD

This is the most modern cleaner of this product line. It provides an exceptional high level of separation efficiency not only for heavy reject, but also for light weight reject and air. The cleaners, which are arranged in a satellite assembly, can be adapted easily to the respective throughput.

Tripac™ 90 / Cleanpac 270

for fine dirt particles

The Tripac™ 90 / Cleanpac® 270 units are used very effectively for cleaning bleached pulp, in recycled fiber stock preparation plants and - with minor modifications - also as fractionator of TMP.
**Fibermizer®**
The Fibermizer® is the final stage of a cleaner plant and is used for the recovery of fibres and fillers.

**CRC - Continuous Reject Control for Centrifugal Cleaners**
The CRC system eliminates plugging problems and recovers valuable fibre at Cleanpac®- and Albia®-cleaners.

**Albia®**
The Albia® FRB is used as a thick stock cleaner or as a final stage cleaner. The FRB enables fibre losses to be minimized.

**Reject Treatment**

**ATREX® Technology for Pigment Dispersing, Reject Treatment and Disintegration**
The ATREX® grinding and mixing system has already been applied to numerous processes. By regulating the parameters of these processes, a new environmentally sound process to treat the reject flow from the centrifugal cleaners and screens has been developed.

This reject flow, which contains valuable minerals and fibres, can amount from 1 up to even 4% of the total tonnage of the paper production line, and is in many cases hauled to the landfill. With the ATREX® system, most of the valuable minerals and fibers can be recovered and reused in the process.

**Disc Filters and Thickeners**

**Hedemora® VDF™**
The Hedemora® VDF™ filter is designed for processing paper machine white water into high quality filtrate, while at the same time recovering the fibres. It is also designed for thickening low to medium freeness pulp, especially where high discharge consistency is required.

The Hedemora® VDF™ filter is available in three different diameters: 3.66, 5.2 and 6.2 m.
Centerdisc® CDP and Centerdisc® CDI
The Centerdisc® CDP and CDI filters are primarily designed for fiber recovery from white water and broke thickening of medium to large flows.

WellDrain®/ WellBag™
„Simple but efficient increased capacity“

The new WellDrain® disc filter sectors feature a unique corrugated stainless steel mesh. As a result of the corrugation, the surface area is increased by approx. 30% and enables a capacity increase of up to 25%.

WellBag™ presents a new design of sectors for vacuum disc filters. The unique corrugation of the mesh of the filter surface creates an increase of 29% in the surface area of the sector, which enables capacity increases of 10 to 25%. The corrugation also facilitates removal of the filter cake.

Disc Filter Rebuild
GL&V offers an extensive portfolio with products and services for rebuild, which increases the performance of your existing disc filters significantly.

The perfect interaction between product, construction and assembling guarantees minimal downtime during the installation.

Your advantages are:
- Higher capacity
- Better filtrate quality
- Higher outlet consistency
- Lower maintenance costs
- Short payback time due to low investment costs
Bow Screens and Gravity Deckers

Bow Screens TS and S
The Hedemora® TS Bow Screen is a simple and effective unit capable of separating fiber as small as 100 microns in length from a water suspension. Police filter, thickener, felt hair remover, ash remover.

The Hedemora® S Bow Screen is a simple and effective unit capable of recovering fibers and other particles as small as 250 microns in length from a water suspension. Police filter, thickener, felt hair remover, ash remover.

GDX™
GL&V open cylinder gravity deckers are used in dewatering pulp, for example, in broke thickening or recycle pulp thickening. The GDX™ is a slusher type thickener based on co-current flow, with the drum rotating in the direction of pulp flow.

The most important advantages:
- Reliable operating
- No down pipes
- Minor maintenance
- Manage high inlet feed consistency

Protection Screens

DualXcluder® Tramp Material Separator
Heavy debris (i.e. wires, nuts, bolts, etc.) can cause damage to equipment in a mill. A DualXcluder® Tramp Material Separator in the pulp feed line gives efficient protection against damage caused by heavy debris in pulp suspensions at consistencies up to 6%. The incoming pulp passes through a slotted screen, with 1.5 - 6 mm slots, that separates the heavy debris. The debris is removed through the outlet opening in the lower part of the separator.
Refiners and Refiner Plates

**DD® 6000 Refiner**

The DD® 6000 is the latest refiner series on the market with the best performing results and lowest operating costs.

The mechanical load decreases up to 15%, due to a lower no load power. The improved rotor centering causes a longer plate life as well as up to 60% more splined teeth lowers, the mechanical wear.

The splined hub and rotor are both reversible.

**DD® 4600 / 4500 / 4000 Refiner**

The DD® 4500/3500 upgrade package offered only by GL&V (OEM for all Beloit-Jones products) for your Beloit-Jones DD® 4000 and DD® 3000 refiners will improve the refining performance and the plate life, which causes lower energy consumption, less seal water consumption as well as lower maintenance cost and lower downtime by improving the controllability.

**Refiner Rebuilds**

GL&V is the original equipment manufacturer for the DD® refiners. You reach an improvement of the performance and the life-time, a reduction of the energy consumption and lower maintenance and operating costs.

**Refiner Plates**

GL&V has more than 160 years of refining experience and supplies refiner plates to all major low consistency refiner manufacturers (Beloit Jones, Twin Flo, Conflo, etc). Working with the Rebuild and Refiner Groups we are able to supply complete refining solutions, not just refiner plates.

**Deculator Deaeration Systems**

**Cleanvac® - Deaeration System**

The Celleco® Cleanvac® deaeration system provides efficient pulp deaeration, which leads to improved formation and wire drainage and to lower pressure fluctuations and less foaming.
AIKAWA FIBER TECHNOLOGIES (AFT) is specialist in improving the performance of existing equipment

Aikawa Fiber Technologies (AFT) is a global supplier with own manufacturing centers all over the world. The company offers performance components and new equipment to optimize screening, refining, stock prep, and machine approach operations. Aikawa Fiber Technologies was found through acquisitions of Advanced Fiber Technologies, AFT Finebar and POM Technology in 2006. All Aikawa Group companies share a strong commitment to research and development, and to provide an ever-improving level of customer service.

Improve the performance of existing equipment

AFT identifies areas for performance and cost improvement with your existing equipment and then recommends the right components to deliver the best results.

Cylinders

Screen cylinders represent AFT’s core business. AFT offers the widest selection in the industry and provides cylinders for all brands, models and sizes of screens. Whatever the application, they have the right product. Today, AFT is the world’s largest supplier of screen cylinders.

AFT MacroFlow™ is the most widely used wedgewire screen cylinder in the pulp and paper industry. MacroFlow2 has the world’s most accurate and precise slot tolerances. Slot width variation is so tight that it improves screening efficiency by 5% and boosts capacity by 10%.

Rotors

AFT is the world’s premier supplier of pulp screen rotors, offering replacement rotors for virtually all screen makes and models. The GHC™ and EP™ rotors incorporate a state-of-the-art design with the latest advances in manufacturing methods to meet a wide range of mill priorities.

AFT offers three types of rotors: The GHC™ rotor, certified EnergySmart™, is a closed-rotor design that is ideally suited for OCC and kraft applications. The EP™ foil-type rotor, which combines an ideal pulse form with minimum power consumption, offers high performance, especially in Deink and TMP applications. AFT RP™ rotors are replacement rotors built to provide a seamless substitute for originally-installed equipment.

FINEBAR® Refiner Plates

AFT FINEBAR® refiner plates and segments are made for virtually all LC disc refiners – and a range of conical refiners. The benefits have been confirmed: higher quality fiber with less energy consumption.

The patented manufacturing technology utilizes precision laser-cutting to create ultra-fine bar patterns with exceptional strength and throughput. In addition to full cones for conicals, FINEBAR® offers full, reduced-diameter and mini-segment designs for disc refiners.

FINEBAR® delivers improved pulp strength, lower specific energy consumption, and improved plate life.
Services

SimAudit™ - Optimizing the performance of screen systems

AFT’s process optimization services combine the expertise of AFT’s application engineers with AFT’s proprietary SimAudit™ simulation program and mill-based process audits.

AFT’s team of highly experienced application engineers have backgrounds ranging from pulp and paper mill operations to working with equipment suppliers and research organizations.

The insights and efforts of these individuals are embodied in AFT’s established and rigorous procedures for assessing and auditing pulp screening and refining systems. The process data obtained is analyzed with SimAudit™, a unique tool designed to assess the current status of a screening or refining operation and to reveal its potential for optimization.

Mechanical Equipment Audit

AFT evaluates the mechanical condition of mill screening equipment and provides a detailed assessment. The evaluation includes the inspection of screen bodies, cylinders and rotors, as well as the determination of wear rates through imprint analysis.

Rechroming

The life of a cylinder can be extended by rechroming it – a process that entails the removal of the old chrome prior to the application of the new. This can be done several times depending on the condition of the cylinder. An AFT mechanical audit is an easy way to determine the best time to rechrome, as candidate screen cylinders must be taken out of service before the wear reaches the base metal.
Improve your process with new equipment

Sometimes you need more than an engineered component to achieve results. AFT offers a range of equipment for stock preparation and pulp handling, including recycled fiber.

With its POM technology, AFT has been a pioneer in compact wet end systems. Through its parent company (Aikawa Group), AFT also supplies machines and complete lines for fiber processing and pulping.

POM Technology

POM's compact wet end technology is based on a novel approach: simply less.

An important part of AFT's technology is what they leave out - tanks, silos, wire pits, etc. A much smaller footprint and a simpler solution for retrofit upgrades and new machines.

Air is removed early in the process, reducing the volume significantly – typically three times less than conventional “Big Box” equipment.

An airless system, without wire pits, silos, and tanks gives you at least four important things: stable paper production, a clean sheet, fast start-ups and grade changes, and less energy consumption.

- POMix™
- Flexible Cascade™
- POMp™ Degasser
- POMlock™
- CycloPipe™
Machines

AFT is a full-scope supplier of recycled fiber systems, including OCC and deinked plants and their process units. AFT can provide complete recycled fiber lines, or the equipment can be used to upgrade existing fiber lines. High emphasis is put on technologies which promote energy savings and end quality properties of the pulp.

With AFT machines you will reach:

- Better efficiency
- Improved cleanliness
- Higher capacity
- Reduced fiber loss
- Better reliability
- Lower energy consumption

Coarse and Fine Screening Equipment

- **MaxFlow™**: features two stock inlets, thereby promoting even distribution of pulp in the screening zone.

- **MaxFlow™ Headbox**: inflow screens, do not produce pressure pulsations that carry over to the paper machine.

- **ADS-Separation**: “Compound Function Screen”; with a single machine, both coarse and fine screening is accomplished. The accepts can be sent to the final chest with no further screening requirements.

Last Stage Screens:

- **AlphaScreen™**: “Compound Function Screen”, which defibers paper flakes and continuously removes foreign materials from the stock.

- **MaxSaver™**: outflow type screen; it is specifically intended to minimize fiber loss in the screening process.
CELTEC GmbH is specialised in the areas of reject treatment and sludge thickening

CELTEC GmbH is your competent partner in the paper and pulp industry regarding the preparation of rejects and sludges. The user flexible and customer-oriented solutions and to reduce disposal costs with its delivery program, as well as recover materials with the units and machines. CELTEC reject presses are used in waste disposal center and in the waste paper recycling field.

Rejects Treatment

Reject ScrewPress

Drainage of coarse and fine rejects up to fibre sludge drainage. 0.8 - 3 bdmt/h capacity. We have optimised an established technology for you!

Economic viability through a maximum final dry substance content and the reduction of waste disposal costs; operational safety through a stable design; low maintenance costs through screwed on design – quick dismantling and assembly.

Reject ScrewPress Type SP
- Types: 400 / 600 / 700
- Design for coarse rejects from various accumulation spots.

Reject ScrewPress Type SP-F
- Types: 400 / 600 / 700
- Specially designed for applications with low inflow dry substance contents and high proportions of fibre.

Fine Reject Press

Separation and thickening of fine rejects with floating substances (fibres). In-flow consistencies from 0.5% onwards; capacity up to 80 m³/h or 16 bdtd.

Stainless steel design, which can be universally used; screw set on both sides → less wear and tear on the screen basket; protection from wear and tear through tungsten carbide coating → long auger life; special wear and tear ring protects the screen basket against wear and tear at the end of the auger; spring loaded valves → better tightness when starting up.

Fine Reject Press Type HSP
- Types: 520 / 780 / 1040

CELTEC GmbH is your competent partner in the paper and pulp industry regarding the preparation of rejects and sludges.

CELTEC’s objective is to offer the user flexible and customer-oriented solutions and to reduce disposal costs with its delivery program, as well as recover materials with the units and machines.

CELTEC reject presses are used in waste disposal center and in the waste paper recycling field.
Heavy Particle Separator
Separation of heavy and large parts (e.g. of heavy particle sluice gates at the pulper). Capacity up to 2,000 l/15min and 1.2 m³/h discharge of solid particles up to a size of 400 mm.

Due to the pulling design, the product has a low construction height at the machine feed, therefore as well no shaft seal in the wet area. The wear and tear strips protect the housing and the perforated sheet. Based on the low number of revolutions, a long life time is guaranteed. Easy maintenance - the perforated plate and spirals can be easily dismantled with a few screws.

Heavy Particle Separator Type HPS
- Types: 420 / 500 / 600

SandSeparator
Separation of sand (e.g. of cleaner rejects); Capacity: throughput 8 to 36 l/s and 0.8 to 2 m³/h discharge of solids.

The large sedimentation surface assures low sedimentation speeds for small particles. The large dimensioned drainage grooves ensure secure water outlet. Reject at the discharge point is dry on the surface.

SandSeparator Type SS
- Types: 250 / 300 / 500
CERAMANT® is specialised in wear protection of machine parts for the pulp and paper industry

Ceramant® focuses on wear protection of machine parts for the pulp production and waste paper preparation. Parts that are produced, processed or repaired by Ceramant are characterised by a long life time and highest effectiveness. The thickness of Ceramant®-coatings is always adapted depending on the maximum allowed wear pattern.

Pulping and Screening Aggregates

Rotors
New / retrofit
Ceramant® produces all common types newly according to samples. Regarding efficiency and profitability, these rotors exceed almost all existing products on the market.

Reparation based on original geometry. New or coated parts produced by Ceramant® can be repaired very reliably in later cases of service. Even after several repairs, Ceramant® processed parts always have a comparable quality to new parts.

Screen Plates
New / retrofit
New parts, produced according to samples, are retrofitted with massive high performance edges which are attached in robot technology and guarantee highest durability, efficiency and life cycle.

Retrofitted screen plates by Ceramant® achieve at least the performance of new parts. Usually, a reparation of the screen plates is possible. Screen plates are very expensive and are often knocked out in the early stages due to failure of the edges. Even for retrofitted screen plates, Ceramant®-“high performance edges” assure a considerably longer operating period.

Wear Protection - Pressure Screen

Pressure Screen Rotors
Retrofit
In most of the cases, the rotors are coated with the Ceramant®-Ceramic CD1 or CDH (Ceramant®-Detonation-Hybrid) wear protection. This leads to a higher economic efficiency. Dynamic balancing in two levels is a standard.

Screen Baskets
Wear protection / retrofit
With the special Ceramant®-procedure it is possible to coat new and used screen baskets with a wear protection. Irregularities of the slot width of a used basket can be corrected up to the accuracy of a new one. With this procedure, the retrofit basket will not only have an excellent accuracy, but it will also reach a longer life time.
Wear Protection - Stock Pumps

Pump Rotor
Retrofit
The used parts are measured and analyzed on possible crack formations. After that, the geometry of the impeller will be repaired with original material close to the nominal dimensions.

A considerable advantage compared to a new impeller is the application of the CS₂® at the working edges. The life time of the retrofitted impeller will be correspondingly longer.

Pump Housing
Retrofit
Based on various technological production possibilities, Ceramant® is able to offer the retrofit of casted stainless-steel pump housing as a very economic and special service.

PulSint® Technology
Wear protection
Unique and revolutionising technology for retrofitted pump spare parts. A highlight of this technology is the possibility to reprofile worn pump walls with significantly better wear qualities than original spare parts. The coating material is attached to the worn part to the final shape, in a powder metallurgical application. The 100% homogenous compound of the coating material to the basic material is guaranteed by a gas-sinter-process.

Press Screw
New / retrofit
Ceramant® offers wear protection and services for standard reject press screws up to inside steam heated special screws. Complex screw geometries are coated in numerous variations by mathematically programmed robotic systems.

Wear Protection - in General

Bed Knifes
New / retrofit

General Components
WETEND Technologies Ltd - Effective mixing for chemicals with the TrumpJet®-Technology

Wetend Technologies Ltd operates globally serving the paper industry worldwide through own resources and locally together with agents and representatives. The technology is based in the headquarter in Finland. Wetend Technologies Ltd is located in the city of Savonlinna in the eastern part of Finland where the company holds office, research and development facilities and assembly shop premises. A new Fiber Laboratory for process and development has recently been opened to support their technology and product development operations.

TrumpJet®

Patented, highly effective chemical injection systems.

- Improved chemical function
- Less chemical consumption
- Less (no) water consumption
- Better formation
- Improved PM cleanliness
- Better PM runnability

TrumpJet® Injection Pump

SHS Hygienic Injection Pumps for TrumpJet® Flash Mixing Reactor.

The SHS Hygienic Injection Pumps are designed for industrial applications to pump liquids requiring high-process cleanliness and system reliability: Both clean and slightly contaminated liquids, viscous liquids, fibrous slurries, non-fibrous slurries.

Features and benefits:

- Hygienic, smooth, step-free and polished hydraulic design
- Fully open hygienic impeller
- Heavy duty multi-discharge case
- Hygienic, reliable, fully integrated single and double mechanical seals
- Innovative, fully integrated, high efficiency permanent magnet motor
- Easy installation, easy and quick disassembly and maintenance
WebBreakEliminator

A new, simple and effective system to prevent web breaks and improve cleanliness.
Bellmer was founded in 1842 in Germany as a family-run business. Bellmer is a high performance machine and plant manufacturer who does not only convince through state-of-the-art products, but offers solution with a sound know-how for almost any case of application. Customers from the field of pulp and paper or from the line of industry dealing with thickening or dewatering of all sorts of suspensions have been benefitting from Bellmer's experience and expertise.

Members of the Bellmer Group

- Gebr. Bellmer GmbH Maschinenfabrik
- Bellmer GapCon GmbH
- Bellmer Kufferath Machinery
- LANG-HAFNER
- Bellmer Iberica Machinery S.L.
- Bellmer Vaahito Paper Machinery Oy

Paper Technology

Bellmer advises, plans and designs plants or modernisation projects for the pulp and paper industry. From the approach flow via the wire section up to the pope reel, complete paper machines can be supplied ready to use. Bellmer develops machine building solutions with integrated control technology that are implemented in a turnkey way and commissioned and started up by specialists. In addition to a joint optimisation phase, 24-hour service is offered as a standard feature 365 days a year.

Fields of application include fine paper, testliner, cardboard, special papers, decor papers and impregnated papers, move and modernize, fibreboard, safety papers and the nonwoven industry.

Separation Technology

The paper technology sector is supplemented by the company sector separation technology: Dewatering of various suspensions from the environmental and paper industry. The two company sectors link special expertise in the paper and separation technology for the customer's benefit.
Headbox

TURBOsérie™, TURBOJetter™, TURBOSTreamer™
TURBOFlower™, TURBOCircler™
Bellmer offers high quality headbox systems for each product range. In addition to the modern hydraulic headboxes of the TURBOsérie™ such as the TURBOJetter™ for fast paper machines, also headboxes with rectifier rolls, the TURBOfomer™ for particularly high requirements concerning formation are manufactured.

In the field of very high grammages or space-saving multi-ply concepts, the vat former Bellmer TURBOFlower™ offers a wide range of use. For optimally equal supply of stock to the headbox, the circular distributor Bellmer TURBOCircler™ is the right tool to achieve ideal CD profiles.

Breast Roll Shaking
For different cases of application, we are able to support you with two different models.

EQUALShaker™
The EQUALShaker™ improves the formation in the paper and board production for speeds of up to 450 m/min. The breast roll is shaken with an acceleration up to the speed of gravity (9.81 m/s²). For higher paper machine speeds, higher shaking forces are required.

TURBOShaker™
The TURBOShaker™ eliminates disturbing mechanical forces by its design principle based on centrifugal masses that balance each other. Due to its unique drive design, the TURBOShaker™ only requires a small footprint which makes this tool an ideal unit to retrofit to already existing plants.

Wire Section
For wire sections, highest requirements regarding quality of production and components need to be fulfilled.

With one-layer or multi-layer design, custom-tailored optimum solutions are elaborated. Bellmer exclusively uses solid and proven parts of stainless steel in order to ensure durability. Classical cantilever solutions or clever wire draping equipment, whatever will be needed, accurate design, production and erection of the components according to schedule goes without saying that top performance will be provided.
White Water Filtration

TurboDrain™ Recovery

White water filtration with the Bellmer TurboDrain™ Recovery TDR is a new technology for the paper industry.

It relieves water cycles of paper mills and cleans the white water II. The TurboDrain™ Recovery TDR is a belt thickener tool featuring a most compact design which is offered in various sizes and types. After dosage of flocculent, the flocculated suspension reaches the circulating belt of the TurboDrain™.

The separated solids are recovered; the recyclable material is fed back to the production and the disturbing matter is removed from the process. Part of the filtrate is used for wire cleaning and is subsequently used as dilution water.

Capture rates of > 98% can be achieved. The clear filtrate gained is almost solid-free and available for further use.

Dandy Rolls and Open Wire Rolls

Bellmer Kufferath Machinery is market leader with more than 80 references of dandy roll systems up to 2,000 mm diameter or up to 1,100 m/min machine speed in different versions and body lengths.

Dandy Roll System AKUFORM® R/RX

Improvement of sheet formation and surface quality.

- Improvement of paper quality, especially with decor and cigarette papers
- Compared to double screen formers large and consistent flake structure, no washing out of the surface
- Reduction of pinholes and constantly fine porous sheet
- No drop markings from water splashes (RX)
- No dirtying of cut squirt and press section (RX)

Hybridformer

TURBOFormer™

The Bellmer TURBOFormer™ ensures increased production through additional dewatering in the wire section. Subject to product and basis weight, the Bellmer TURBOFormer™ is able to enhance the performance of endless wire machines up to 30%.
Press Section / Shoe Press

TURBOPress

Short or no draws at all, mature designs and fast felt changes are the main features of the Bellmer press sections. In order to be able to create ideal press sections, the shoe press TURBOPress was developed. With this wide-nip press, highest dry contents can be achieved, upon simultaneously treating the bulk with care. This tool ensures gentle but nevertheless very efficient press process resulting in best dry contents upon only slightest strain to the raw paper.

The TURBOPress is a shoe press module, which is available in three different module types: XXL & XL, L as well as S. Bellmer GapCon provides the optimum solution for every need, whether the shoe press is needed for a rebuild or for a new machine. The TURBOPress is a modern tool to improve the overall efficiency of a paper machine. It optimizes the required paper properties and reduces energy costs.

Size Press / Film Press

Bellmer size presses captivate because of their perfect functionality and reliability. They supply size presses in standing or hanging execution, optimally adapted to the requirements of your paper web and its sizing. High production speeds entailing high process temperatures are taken into consideration when establishing the design.

TURBOSizer™ / TURBOFilmSizer™

Due to the advanced construction and design, Bellmer size and film presses TURBOSizer™ and TURBOFilmSizer™ operate with maximum security and cleanliness and thus ensure an even, one- or two-sided glue or pigment application.

Pulper

TURBOPulper™

Bellmer TURBOPulpers™ always ensure optimum stock disintegration - if beneath the paper machine for the wet broke and the paper web pulping or the disintegration of dry broke. Bellmer supplies - subject to the location of installation, kind and quantity of stock - the adequate design and size. There is a choice between the standing and suspended type with round vat or the flat pulper carried out in low height.
Dryer Section

TURBODryer™

With Bellmer as a partner, customers benefit from their great experience and expertise in this field. Bellmer provide advanced overall solutions with cascade type steam and condensate systems as well as the matching hood technology. Their drive designs either with guide roll drive or direct drive and the individual techniques of ropeless transfer are based on the requirements of faster and faster machines.

The cooperation with the Bellmer subsidiary company Lang-Hafner specializing in air & steam systems ensures adequate and custom-tailored energy saving designs. High-quality steam and condensate systems as well as hall aeration or hood and air technology can be combined from one source to your advantage.

Threading Systems

TURBOFeed

Threading systems have an essential influence on the efficiency of paper machines. Products belonging to the TURBOFeed series reach from the classical rope guiding elements, such as rope pulleys, rope drive and rope tensioners, up to pneumatic ropeless transfer systems.

Additionally, Bellmer has developed adequate stabilizers for faster paper and board production.

Calender

The "hard" or "soft nip" calender is an essential component of the paper machine, influencing factors such as smoothness, gloss and CD thickness.

Bellmer GapCon’s calenders are custom built to meet each customer’s requirements yet using standardized equipment.
Reeling Technology with the TURBOReeler™ Family

Reeling:

TURBOReeler™, TURBOCheck™, TURBODur™, TURBOCenterWinder™

With a product of the TURBOReeler™ family, you decide on a reproducible, fully automatic reel change at any time.

The TURBOReeler™ is a conventional reeler in its perfected form. The modular box-type frame allows fast and secure installation. Cables, pneumatics and hydraulics are safely integrated in the stable quality frame.

Due to Bellmer’s proven large-roll reeling technique, customers have been able to perfectly reel diameters of up to 4,200 mm with the TURBOReeler™.

Monitoring and setting of any operation parameter is effected through process visualization at the clearly laid out control panel. Just in case some error should slip in, the specially developed diagnosis system TURBOCheck™ will help. A criterion for the reeling quality of a paper roll is the reeling hardness.

For the TURBOReeler™, the proven reeling hardness control TURBODur™ was developed. Thanks to this unit, the press curves of the spool to be reeled can be adjusted according to the requirements of the paper grades used.

Should your paper be particularly sensitive or should its air permeability be low, we can provide you with the TURBOReeler™Pro featuring a secondary center drive. This will ensure that the secondary reeling build-up can be performed in a sensitive way, equipped with the corresponding drive technology.

There are papers such as thermo papers that are so sensitive that one should not even look at them too closely. One inadequate reeling cycle and the quality paper becomes waste. This absolutely highest demand and most difficult task is perfectly mastered by our TURBOCenterWinder™. Through its unique design, each paper roll is reeled up with just one center drive from the starting core up to the end.
Unwinding and Splice:

**TURBOUnwinder™**

The TURBOUnwinder™ is a conventional unwinding station in its perfected form. The modular box-type frame allows fast and secure installation. The TURBOUnwinder™ is a cost-favourable upgrade for existing slitter winders and can be well used when changing the reeling process to large-scale technology. Subject to the specific requirements on site, inclined hoist for crane-free pick-up of the reel spools from the ground, equipment for quick ejection of the empty reel spools, oscillation of the paper web or brake generators can be integrated into the system.

**TURBOCenterSplicer™**

There are papers such as thermo papers that are so sensitive that one should not even look at them too closely. One inadequate unwinding cycle and the quality paper becomes waste, making the following conversion step unnecessary. This absolutely highest demand and most difficult task is perfectly mastered by our TURBOCenterSplicer™. Through its unique design, each paper roll is completely unreeled with just one center drive. The transfer of the paper web is effected by means of our sensitive feeler roll with shortest rest paper flags.

Transport Systems:

**TURBOTransporter™**

The larger the reel spools get (operating width and reeling diameter), the more important their reproducible movement gets - often to be effected through forced transport. TURBOTransporter™ and reel spool magazines solve these tasks for you without any problems, for each and every reel spool. And when here another working step can be saved either through automation or through extension of the crane when changing the process to large reels, you will certainly appreciate that.
Winder

TURBOWinder

GapCon's TURBOWinder is based on the two-drum principle and is tailor made to meet the capacity and technological requirements of each customer, while complying with all current applicable safety regulations. The TURBOWinder is the right choice for most grades and can be deployed up to widths of 7.5 meters and production speeds of 2,500 m/min.

Steam and Condensate Systems

Lang-Regler Lufttechnik-Wärmetechnik GmbH

To assure perfect drainage of the drying cylinders, the paper machine has to be provided with a steam and condensate system, which is able to meet a wide range of requirements.

Based on more than 35 years of expert knowledge in this field, Bellmer is able to offer individually designed systems. Their designed and manufactured steam and condensate systems are constantly updated and adapted to the latest requirements of the paper industry.

Bellmer systems guarantee highest economic efficiency, ease of use, as well as long-term commitment.

The installation of their steam and condensate systems is supervised by experienced technicians, controlled, and put into operation.

In case of disturbances, qualified technicians are available to resolve the problem via telephone hotline or personally on site.
Hoods and Air Systems
Hafner Lüftungs- und Klimatechnik GmbH

Comprehensive economic energy strategies do not only require an increase of the drying plant efficiency (steam and condensate systems), but also the installation of an up-to-date air system. Saving of primary energy by reducing the energy consumption or the energy transfer to the atmosphere enhances the efficiency of all production machines and pays off in a minimum of time.

Hafner GmbH manufactures custom-tailored individually designed exhaust and fog suction hoods up to high-performance hoods. Special lifting and rolling gate systems and mobile designs allow an easy access to the machine, also for changing cylinders, rolls, fabrics etc.

By means of the heat recovery system, the outlet air from the dryer section is recovered in air/air or air/water exchangers for its recycling into the energy balance.

The heat recovery plant allows to make substantial energy savings and the amortization of your investment can therefore be guaranteed within a minimum of time.

All systems are monitored and operated by ultramodern micro-processor controlled control loops.
Treatment of White Water, Waste Water and Sludge

Each and every hour of standstill of a machine is money, thus we only provide you with highest quality ensuring smooth operation. There is a good reason why Bellmer is the market leader in this field. Thanks to more than 800 reference tools in the paper industry, you can benefit from a rich experience and expertise. Here, they offer the most ample solutions in order to relieve water cycles, to lower production costs or just to reduce the cost for the disposal of sludges. Bellmer innovations here have set the standard again and again.

Learn more about Bellmer solutions:

**TurboDrain™ TDR for**
- SW-II-cleaning
- Recovery of valuable substances
- Separation of stickies in waste paper preparation

**TurboDrain™ TDC for**
- Thickening of paper sludges

**WinklePress™ WPN for**
- Dewatering of paper sludges
- Dewatering deinking sludges

**Cascade for**
- Thickening and dewatering of any sludge occurring in the paper industry

**WinklePress™ WPH for**
- High-pressure dewatering

**Bellmer Poly Stations for**
- Efficient solution of flocculent

**BELLMER SYSTEM CONTROL BSC for**
- Automation of your plants
- Reduction of use of chemicals

**AKSE® S Disc Thickener and**

**AKUPRESS® BX Screw Press**
- Highest dry contents up to 70% through patented, automatic control system
- Inlet stock consistencies of 0.5 - 25%
- Optimised machines for 2 - 160 t/d throughput per line
- High bio sludge content possible
- Closed design with little space requirements
Fibre Thickening / Dewatering

Disc Thickener AKSE® F
- Hydrostatic thickener without down pipes
- Sturdy against inlet fluctuations
- Completely closed design
- Automatic control and easiest handling and maintenance.

Screw Presses AKUPRESS® CX
- Inlet stock consistencies of 3 - 20%
- Highest dry contents up to 55% dry content
- Machine sizes for quantities of around 10 - 500 BD available in 5 sizes from 250 - 1,400 mm screw diameter
- Patented control system

Rejects Dewatering
Bellmer Kufferath Machinery has more than 150 reference systems, comprising 5 sizes from 250 up to 1,000 mm screw diameter with capacities of up to 200 BD.

Turn-key rejects treatment systems consist of hereafter mentioned parts:

AKUPRESS® A/AS/AX Screw Presses
as well as additional systems engineering (such as, e.g. shredders, metal separators, conveyors etc.)
- Dewatering of coarse and fine rejects from waste paper stock preparation plants from 55 - 75% dry content
- Dewatering of pulp rejects from 45 - 55% dry content
- Bilaterally bedded screw for highest stability and low wear

Engineering
To acquire an engineering through Bellmer means that we show you ways and solutions how to improve the quantity, quality and runnability of your paper machine and also how to utilize so far undiscovered potentials within your production process. The possible starting points of an engineering job include among other things stock preparation, approach flow, fibre recovering in white water cleaning and paper machine.

An engineering project is the best way of solving a problem as this job is carried out with a definite and concrete aim.
Bakony Technical Ceramics Ltd. is specialized on the production of dewatering elements and ceramic segments

Bakony has got more than 20 years of experience in serial production of high-purity alumina-oxid industrial ceramic products. The high quality technical ceramic parts produced in the company are applicable in various branches of industry. Bakony manufactures its products according to customer requirements, in order to meet their expectations. Bakony aims to provide the highest possible quality and at the same time to ensure maximum customer satisfaction.

Dewatering Elements

Bakony supplies various dewatering elements for the pulp and paper industry: Foils, covers, boxes in stainless steel, water separators, and complete service of installation. Engineers are able to provide the best solutions for you, in order to enable the best possible performance of your machines, for pulp, paper, cardboard and tissue products.

Bakony can supply the complete boxes, on its own design and on customer demand: Forming board, hydrofoils, single foils, vacufoils, single suction boxes, Bi-vac, Trivac, felt suction boxes.

Various materials are available, such as HDPE, HDPE with ceramic additives, Aluminium-oxide, Zirconium-oxide, Silicon-carbide and Silicon-nitride.

Maintenance

Bakony is able to regrind all kinds of ceramic elements in the fourdrinier and felt conditioning boxes up to a maximum length of 12 m and a maximum width of 1.2 m.

As a further service, Bakony is able to repair all the existing ceramics being available on the market: IBS, Leripa, Johnson, GL&V and Huyck.

The modification of the relevant boxes in SS is included in the service, in order to give every customer a wide range of solutions to reduce costs and investments as well as to propose an alternative offer to the replacement with new ceramic elements to the customer.

Engineering

Bakony engineers have the full knowledge to make all necessary calculation to develop and improve all kinds of customer’s fourdrinier.

Vacuum requirement, air flow, and energy absorption are just some of the parameters, which can influence the decision to install ceramic materials.

Bakony is able to support all customers in this decision and to prove, why the installation of particular boxes having the right specification is the key to improve the productivity and to reduce the costs in terms of energy consumption.
PMS Papiermaschinen-Systemtechnik is specialised in the field of nozzles

More than 20 years ago, PMS introduced the ruby nozzle to the paper industry and simplified the production process in a small but important section of paper production. Today, PMS is market leader and supplies its customers worldwide with high-pressure nozzles, edge trimming nozzles, edge trimming systems and high-pressure pump systems. Their aim is to meet customers requirements at the paper machine, no matter if for single nozzles or complete systems. PMS see their customers as partners and together with them, they try to optimize paper production, to lower the costs, while at the same time granting the best possible quality.

SuperTrim Edge Trimming Systems

SuperTrim Systems have been developed by PMS especially for positioning the edge trimming nozzles. SuperTrim systems are reliable and meet all requirements in operation and safety at work. All necessary adjustments can be done from the operator side and without reaching over the running wire. They can be easily dismounted and remounted during stoppages and for replacement of nozzles.

SuperTrim systems ease the adjustment of the precise geometric position of the nozzles and the setting of the correct working pressure. Police filters avoid a clogging of the nozzles. Today, most modern and high-capacity paper machines are equipped with PMS SuperTrim systems – more than 600 machines worldwide.

- SuperTrim S - the original
  Optionally available with electrical position sensor and LED display.
- SuperTrim C - the twin edge trimming system
  Optionally available with electrical position sensor and LED display.
- SuperTrim XS - the slim line edge trimming system
  Simplified version equipped with all necessary functions.
  Can also be mounted as double system.

Advantages of all types: Highest quality standard. Easy and safe in use. Robust and long-living. Developed by PMS especially to meet the requirements of edge trimming at modern paper machines.

Edge Trimming and Tail Cutter Nozzles

Edge trimming and tail cutter nozzles insure safe cutting of the paper. The jet quality of the nozzle and the regularity of the cut lead to best results and avoid cost-intensive sheet breaks.

Today, PMS ruby nozzles provide the best results on paper machines worldwide. PMS supplies single jet nozzles, double jet nozzles and triple jet nozzles. PMS nozzles have metric threads and are equipped with O-rings for sealing. We do not use any sealing tape.

All PMS edge trimming nozzles may be delivered in bright stainless steel DIN 1.4571 or in stainless steel DIN 1.4571 with anti-stick coating. SafeJet nozzles have beveled tips in order to avoid possible water drops to clash with the nozzle jet.

- Type RSDS - with one water jet
- Type RSDD - with two water jets
- Type RSDT - with three parallel water jets

Features of all types: Ruby nozzle insert for best jet quality, metric threads with O-ring, SafeJet dripping edge. PMS VARIO joint for easy and safe alignment of the water jets (one, two or three - depending on the type) and of the SafeJet.
High Pressure Pump Systems

The TPS high-pressure pump system has been designed by PMS especially for the support of PMS edge trimming systems SuperTrim and PMS tail cutter nozzles. Usually one pump unit is in operation while a second one is on standby. The system will be configured according to the data of the relevant paper machine to a flow volume of approx. 2 - 10 l/min, with an average power consumption of less than 1.1 kW and a primary pressure of max. 70 bar. It is equipped with a two-way pre-filtration and a storage tank of approx. 170 l.

High Pressure Shower Nozzles

Ruby nozzles for most standard HP shower pipes: as disc type nozzles and with the according threads.

Type STA
- PMS HP ruby nozzles, disc type.
- For use in HP shower pipes with threaded holders of different types.
- PMS HP ruby nozzles, disc type, for use in holders of shower pipes with cap nut.

Type ISK
- Ruby nozzle with hexagonal socket, available with all standard threads.
- To be mounted at HP shower pipes of paper machines.
- Threads: metric, BSP ISO 228 and DIN 2999, NPT and UNEF.

Type S1
- Patented and registered design.
- PMS HP ruby nozzle for use in HP shower pipes with threaded nozzle holders M30 x 1.5 or M32 x 1.5 (others on request).
- The special design of this nozzle simplifies the handling.

Type S2
- Special PMS HP ruby nozzle with double jet, designed by PMS and pending patent.
- Lower water consumption at higher cleaning efficiency.
- Available for HP shower pipes with threaded nozzle holders M30 x 1.5 or M32 x 1.5 (others on request).
EMA GmbH offers high-quality solutions for the optimization of production processes in paper machines.

EMA GmbH delivers products and solutions that ensure a more efficient and productive operation of paper machines. Due to many years of experience and extensive know-how, EMA can guarantee consistent high product quality. EMA’s product range is characterized by robust design, up-to-date process control, simplest operability, and maintainability and includes products like tail cutters, felt and wire guide controls and tension regulators, and traversing cleaners. One of EMA’s primary goals is to react flexibly and quickly to customer requirements and to offer its customers a very high service quality.

Optimization of Web Guides

Dry Section Optimization

EMA provides solutions for optimizing the dry section, in order to reduce the number of guide rolls from 10 to 7 guide rolls. In addition, no roll has contact to the paper side of the web.

Advantages:
- Reduced number of guide rolls
- Only internal guide rolls
- Wrap angle of adjusting rolls: about 80 degrees
Existing Situation: Separate Guide and Tension Measuring Roll

Optimized Situation: Guide Roll = Tension Measuring Roll
Paper Machine Components

Felt and Wire Guide Control

EMA felt and wire guide control units are equipped with electromotive adjusting elements with special motors. The electromotive adjusting element consists of a robust cast casing with a slide driven by a trapezoidal spindle. The adjusting element is optionally available for use in wet sections of stainless steel or in dry sections consisting of a steel case with paint system.

The most important advantages:
- Robust design
- Arbitrary mounting position
- Low energy consumption
- Low-maintenance system

Felt and Wire Tension Regulators

The EMA felt and wire tension regulators regulate the specific tension electro-mechanically. They are available as spindle tensioners with straight motion, as well as wire lever tensioners with circular motion.

Advantages:
- Robust design
- Spindle and tubular element are totally enclosed
- Automatic spanning of press felts possible
- Low energy consumption
- Low-maintenance system

Tail Cutter Wet Section

Due to continuous product development for more than 30 years and a technically mature, robust design with simple operability, EMA tail cutters wet section are the first choice in Europe’s paper industry. The tail cutters are specially designed and manufactured based on the technical conditions on-site.

Advantages:
- Robust construction, which has been tested for many years
- Simple operability
- Very high reliability
**Tail Cutter Dry Section**
EMA tail cutters dry section serve feeding the paper into the dry section of the paper machine. Thereby the dry paper is separated so that a strip is produced, which is later extended into a full width. The tail cutter dry section positions the knife onto the required spot. EMA’s tail cutters distinguish themselves by a robust construction well tested for years, simple operability, and very high reliability.

**Traversing Cleaner**
The EMA cleaning systems are especially configured for wire, press, and dry sections. The traversing cleaner is very well equipped for the use in all areas of the paper machine. The main advantages of the effective surface-covering web-cleaning during production are an increased web lifetime, better dehydration in the wire and press section, an increased efficiency in the drying process, and less break-downs due to coming off stickies.

Advantages:
- Robust design
- Low quantity of water
- No costs for vacuum
- Low energy consumption
- Low-maintenance system

**Traversing System for the Application of Chemicals**
The EMA traversing systems are based on the basic design of the tail cutter wet end and the traversing cleaning system. Contrary to the traversing cleaning systems with dirt disposal, the traversing systems are designed for the application of chemicals of other substances. Due to various construction types, it is possible to address the individual needs and requirements of our customers and offer them ideal solutions.

Advantages of the application of chemicals to the entire surface:
- Controlled application of substances compared to spray pipes
- If required, selective application
- Adjustable forward feed
- Adaptation to the application system
Runtech Systems offers high quality availability and energy saving components

The highly innovative company Runtech Systems Oy was founded in 1997. Runtech’s products and services aim to improve the production, quality and efficiency of pulp and paper machines significantly. Up to now, they have conducted more than 200 studies in the field of the pulp and paper industry. As a result, they have created high technology products, which are able to improve the production results and to reduce the operating costs.

Vacuum Systems

Various references show significant energy and/or water savings due to installed products of Runtech.

Ecopump Turbo™
Compact high-speed electric drive and high efficiency turbo blower for energy and water savings. This innovative system is driven completely without the use of any water. Compared to standard water ring pump systems, this system reaches an energy saving level of up to 70%.

EcoSep™
The EcoSep™ water separator with integrated EcoFlow™ meter is ideal for installations with limited space or limited drop leg height. The flow speed of the media entering the water separator diminishes due to the cross sectional flow expansion. EcoSep™ is available in vertical and horizontal versions.

Online Dewatering Measurement
For a better understanding and traceability of dewatering processes in the wire and press section, Runtech has installed thousands of Ecoflows (‘online’ dewatering measurements) at technology leading pulp and paper mills.

In combination with their innovative products, the Runtech consulting service has achieved energy savings by six-digit sums per year for a large number of customers. Due to the installation of these products, the companies have an additional analysis tool for data recording and production-monitoring up to the evaluation of the function of a press section and felts.

Ecoflow™
On-line dewatering rate measurements in vacuum systems

Ecoflow Air™
On-line airflow rate measurements in vacuum systems
Ropeless Tail Threading Products

Runtech Systems Oy has developed a tail threading technology and devices for the most efficient machines in the world. Runtech’s tail threading equipment is used at numerous pulp and paper mills worldwide.

Press RunShooter
- Tail threading for press sections

TailBlade
- Ropeless tail threading solution for dryer sections

RunShooter
- Ropeless tail threading for longer open draws (without vacuum belts)

„Doctoring“ Products

High performance doctoring products for demanding customers and challenging positions. Improvements through state of the art equipment and consulting by well experienced specialists.

Air Blade™ - Advanced Doctoring
- The purpose of the Air Blade is to improve the doctoring of grooved and blind drilled rolls. The vacuum roll RS Air Blade improves suction roll doctoring performance significantly.

CompoDoc™ - Composite Doctor Back
- Runtech’s state-of-art composite manufacturing technology gives a solution for challenging positions.

CompoAdapt™
- 100% carbon fibre hose loaded doctor holder

Sheet Stability Systems

Air Curtain
- Air Curtain (patented) overcomes the pressure difference between the top and bottom sides of the paper sheet

Laser
- For better control of the press section draws

ProfiVane™
- Carbon fibre headbox flow sheet

Service and Consulting

Runtech Systems Oy offers consulting and service in all areas of paper production, in order to realise energy savings and quality improvements.
Drying Section Optimization

PM drying section optimization improves process
EV Web Stabilizers

For press section
EVp and EVsp web stabilizers ensure fluent runnability at PM press section.

EVp web stabilizer...
- supports the sheet from the press to the dryer section

EVsp web stabilizer...
- eliminates blowing problems in free-standing presses

EV EasyOne™

Supports web release with a high vacuum area at single felted section
EV EasyOne™ optimizes the web release between upper cylinder and vacuum roll. It eliminates runnability problems that are caused when the sensitive wet web tends to follow the upper cylinder surface.

- Excellent runnability of the first single felted drying groups
- Eliminates sheet flutter and paper defects
- Additional PM speed
- More tolerance to process fluctuations
- Reduction of raw material costs

EV EasyGo™

For superior runnability and ropeless tail threading at single felted section
An excellent runnability concept for the PM single felted drying section. It combines the web stabilizing and the vacuum roll technologies to ensure best possible runnability, drying efficiency, and paper quality.

Installed on top of the vacuum rolls to support the sheet and create a vacuum inside of the vacuum roll. EV EasyGo™ concept exhausts air through the holes of the vacuum roll and blows air through the nozzles of the web stabilizer creating vacuum from the opening nip to the closing nip.

EV Web Stabilizers

For double felted drying section
In double felting, the drying capacity is greater than in single felting. Though, runnability problems are more common. EVdf web stabilizers and EV Pocket Ventilators are the cure for runnability bottlenecks at double felted drying sections.
**Machine geometry modification**

Machine geometry changes are improving PM runnability and speed. Already a small change can make a big difference on sheet run. Runnability problems at the section change can be a bottleneck also after the single felt has been equipped with web stabilizers. These problems are a result of moving surfaces, and mainly caused by pressure differences and axial air flows caused by pumping effect of dryer fabrics. Runnability problems in the group caps are solved by minimizing the open free draw.

**EV Pocket Ventilation™**

**Results in even moisture profile and energy savings**

PM drying section is a major steam consumer: 75% of paper machine steam consumption is used in the drying process. Energy waste, uneven sheet moisture profile and runnability problems are the result if cylinder pockets are not well ventilated.

Underpressure in the unventilated cylinder pocket creates dry air flows into the drying pocket causing high pocket humidity in the centre of the pocket and sheet fluttering. Poor pocket ventilation causes uneven final moisture profiles at the reel and over-drying at both edges of the sheet. This means poor paper quality and more paper breaks. Decreased evaporation capacity and uneconomic steam consumption are also results of poor pocket ventilation.

EVpv Pocket Ventilation is installed in the cylinder pockets of dryer sections to blow dry supply air into the pockets. This decreases the pocket humidity level and allows moisture profile correction. In addition, the system decreases steam consumption and it also prevents over-drying and edge flutter.

**Online Measuring™**

**Reliable tools that enable accurate process adjustments for economical drying.**

EV Web Eye™ and EV Web Scanner™ provide you with reliable information of sheet moisture and temperature profiles or trends already at the beginning of the drying section. This helps you to control the drying process correctly right from the start.
Cleaning Systems

**EV MRS™ - Forming section optimization**
EV MRS™ technology is a part of an environmentally friendlier, energy saving forming section. It provides effective mist removal in combination with additional aid for fabric cleaning. This results in improved paper quality, process efficiency and energy savings. Machine hall without spreading mist is more comfortable to work at.

EV MRS™ includes a mist suction box, an exhaust duct, a preseparator, and the EV Blower separator fan, which is a special construction combining a centrifugal fan and an efficient water drop separator.

The residual water from the evacuated mist / air is separated with an EV Blower fan. The EV Blower is equipped with a self cleaning system and a teflon cover to prevent clogging.

**EV ReDoc® - For continuous reconditioning for rotating surfaces**
EV ReDoc® is a continuous reconditioning system for paper machine cylinder and roll surfaces. The EV ReDoc® system eliminates dirt like stickies, fibres and coating colour from cylinder surfaces by using steel brushes. Even old and worn out cylinders can be cleaned effectively with the help of EV ReDoc®. Conventional doctoring systems are not able to keep cylinders clean. The EV ReDoc® system can be used with an existing doctoring system.

Continuous reconditioning improves the heat transfer from cylinder to paper, which increases the drying capacity. Results can also be seen in better paper quality, as defects in paper are minimal. It is also possible to increase the PM speed as a result of an improved drying process and runnability.

**EV Cleaner™ - For effective dryer fabric cleaning and longer fabric life**
The EV Cleaner™ technology keeps the fabric clean and open across the entire fabric width. The EV Cleaner™ enables reliable and maintenance-free cleaning: it does not require any moving parts, high pressure water, compressed air, or power supply.

The EV Cleaner™ improves PM runnability and paper quality, as the high permeability of fabric keeps the cylinder pockets well ventilated. Customer experience shows that the EV Cleaner™ can increase the fabric life time to even 300%.

**EV Online Cleaning System™**
With online cleaning, your mill has remarkably less need for washing stops and chemicals. Constantly high wet end hygiene means better process efficiency and quality.

The EV Online Cleaning System™ keeps all wet end areas clean: Channels, towers, tanks, bow screens, disc filters, water plates, surface of open areas, thickeners.
Energy Efficiency Optimization

EV Heat Recovery™

Significant energy savings for paper machine

Paper industry is a big energy consumer. Energy costs are high, and they will rise as energy will be more and more expensive in the future. To decrease emissions of greenhouse gases, paper industry must limit the use of fossil fuels. For these reasons, paper industry must reduce energy consumption and find new ideas for more efficient energy usage.

EV Heat Recovery™ is a highly effective system to update existing heat recovery systems and to modernize a paper machine, in order to meet the requirements of today. The EV Heat Recovery™ technology reuses heat to replace primary energy sources, therefore savings in energy costs are evident.

EV Heat Recovery™ recovers drying section heat energy and takes it back to production. The exhaust air is processed through air to air or air to water heat exchangers that are durable and always tailor-made to customers' needs.

A typical heat recovery system includes supply air preheating, process water heating and machine hall heating.

EV Survey™ Services

„EV Group helps you to eliminate process bottlenecks and optimize production.“

You may see the PM process bottlenecks and problems, but often it is difficult to know what exactly causes them. The EV Survey team has the know-how, the experience and the modern measuring technology to tell you what is going on with your paper machine.

Dryer Section Survey Tool

Solutions to decrease energy consumption and improve drying capacity and runnability

- Pocket humidity and temperature
- Hood air systems
- Cylinder surface temperature measurements
- Calculation of drying parameters
- Mechanical checking
- Sheet temperature measurements
- Other measurements
Ventilation Survey Tool
The machine hall ventilation survey tool for better working conditions and less energy consumption
- Exhaust and supply air measurements
- Machine hall air balance
- Temperature and humidity measurements
- Airflow direction and air velocity measurements
- Machine ventilation

Sheet Moisture Profile Survey Tool
A sheet moisture profile survey tool to find out where the moisture profile problems are generated

Usual measurement places:
- Against the pick-up felt
- After the press section
- End of the slalom section
- Before / After the sizer
- Before / After the coater
- At the reel

The EV Survey entails extensive research. We analyze the reasons for your PM problems and after measurements, we provide you with detailed information on how to eliminate them.
FINCOAT is providing coating solutions for rolls, cylinders and various types of components

FINCOAT is specialized in hard coatings for rolls and other components using thermal spray coating technology. It uses the latest technology, continuous research, development, and its extensive experience in order to find the correct and most cost-effective coating solution for the specific application. The coating solutions that are offered at FINCOAT include friction control coatings for pope reel and winder drums, spreader rolls, sectional rolls and measuring rolls, self-cleaning coatings for all types of equipment, as well as release coatings for drying and cooling cylinders. Another service that is offered by FINCOAT are grinding jobs.

SlipStop
SlipStop is wear-resistant, high-speed sprayed hard metal coating. It ensures a constant friction level and long life. SlipStop is a gas-thermal coating that solves sliding as well as wear and tear problems for winder reels, reel drums, spreader rolls, tensioning measuring rolls, and sectional rolls.

- Coating hardness: 1,000 - 1,200 HV
- Layer thickness: 60 - 80 microns
- Surface roughness: adjustable in the range of 2 - 13 microns, can be restored 1 - 2 times before applying new coating
- If required, delivery can include sealing treatment
- Coating can be made on the spot with minimal downtime
- Delivery includes cleaning of the coated detail and its surrounding area by vacuuming

CleanCoat
CleanCoat is the latest product range from Fincoat and is used for applications requiring an excellent self-cleaning ability, combined with wear and corrosion resistance. CleanCoat coatings are mainly based on a two-part structure. The structure consists of the hard coating base with a combination of nano-tech materials. It is also possible to use the traditional fluoropolymers, such as Teflon. Both layers of coating are selected based on customer requirements.
SuperStrong
Fincoat's innovative coating solution SuperStrong is suitable for both traditional coating solutions and new demanding areas. It also provides significant added value to many existing applications.

The SuperStrong product insures excellent coating quality and better mechanical properties than ever before.

DryOnyx™
DryOnyx™ is a release coating for drying and cooling cylinders. DryOnyx™ coating keeps cylinder surfaces clean and provides excellent release and doctoring properties. DryOnyx™ is ideal for on-site coating. DryOnyx™ is a trademark of Valmet Technologies Inc.

Grinding
On-site grindings: Dryer cylinders, reel drums, winder rolls, guide rolls, clupak rolls.
On-site superfinishing: Calender rolls, Yankee and MG-cylinders, soft winder rolls, and reel drums.
Coating solutions for rolls

Alu-Releco provides coating solutions for lead rolls, guide rolls (also in positions which are doctored), spreading rolls, suction rolls, fly rolls, press rolls, and other rolls. Coatings that are used for rolls are Teflon® and other fluoroplastic coatings, such as PFA, FEP, PTFE, PVDF, ETFE, epoxy, combinations coatings (hard coating + fluoroplastic) and Teflon® sleeves.

Main advantages:
- Provides excellent corrosion and chemical resistance
- Reduces the need for cleaning and makes it easier
- Reduces stickiness
- Increases productivity and quality
- Can be used in temperatures up to 260°C

Coating solutions for cylinders

Alu-Releco offers AR520 WC-carbide - Teflon® combination coating as a coating solution for drying cylinders. This coating solution can be manufactured on-site.

Main advantages:
- Provides excellent corrosion and chemical resistance as well as wear resistance
- Non-stick properties, reduces the need for cleaning and makes it easier
- Reduces the sticking of material to the cylinder surface
- Improves the quality of the final product as well as productivity
- Can be used in temperatures up to 260°C
- Doctor blades can be used
Coating solutions for wet end

The company Alu-Releco provides MicroCoat® coatings for head boxes, forming areas and plates, feed pipes, inlet headers, sifting drums, wire pits, screens, rubber rolls, stone rolls, and press rolls.

Benefits:
- Non-stick properties
- Reduces stickiness
- Makes cleaning easier and quicker
- Decreases bacterial growth on surfaces
- Prevents the product from sticking on surface
- Improves the quality of the final product as well as productivity
- Can be applied on-site, the work is carried out during short shutdowns

Coatings for other applications

Alu-Releco’s coating solutions (Teflon® and other fluoroplastic coatings, such as PFA, FEP, PTFE, and epoxy) are also available for suction boxes, valves, piping, bearings, and other machine parts.

Benefits:
- Provides excellent corrosion and chemical resistance
- Non-stick properties
- Reduces the need for cleaning and makes it easier
- Reduces the sticking of impurities
- Improves the quality of the final product as well as productivity
FASTPAP offers scanner products for the entire papermaking process

For 20 years, Fastpap has been developing and manufacturing solutions for higher process efficiency and lower costs for the pulp and paper industry. Their expertise lies in cleaning and cutting systems based on the latest high pressure water jet technology. Fastpap products are small, almost invisible parts of the process, but they make a great difference to its runnability and productivity.

Cleaning Systems

Fastpap LineSprint
Online roll cleaning solution
Fastpap LineSprint is an advanced solution for cleaning roll surfaces. The method is also suitable for cleaning soft coatings. Clean roll surfaces help you to achieve a consistent and flawless end-product quality.

- Gentle for the roll surface
- Quick, efficient, online
- Programmable
- Improves work safety
- Easy installation
- Consistent product quality
- Increases production hours

Cutting Systems

Fastpap TwinCut
Double tail cutter for threading success
Fastpap TwinCut enables successful tail feeding due to its highly repeatable tail cutting accuracy. It is particularly suitable for threading on online coating machines, where controlling the tail end can be difficult.

Its especially quick operation is achieved through the sophisticated drive automation of the cutting head movements.

- Steady, adjustable movement of the cutting jet
- No dust, no sharpening
- Programmable tail widths
- Possibility for manual operation
- Reduction in threading time
- Reliability in extreme conditions
- Easy installation and service
Fastpap SingleCut

Reliable tail cutter for threading

SingleCut tail cutter provides highly repeatable accuracy to ensure quick and successful tail threading. It is specially designed for difficult conditions. The pre-programmed tail widths and other advanced features make this tail cutter a reliable and easy-to-use solution, whatever the individual customer needs.

- Steady, adjustable movement of the cutting jet
- No dust, no sharpening
- Programmable tail widths
- Possibility for manual operation
- Reduction in threading time
- Reliability in extreme conditions
- Easy installation and service
PROCEMEX leads the machine vision business in pulp and paper with continuous cutting-edge innovations.

Procemex develops, designs, and delivers the fastest and most accurate smart camera-based solutions for paper manufacturers and printers worldwide. The core excellence of Procemex lies in mastering optical imaging and image processing, starting from the very beginning of the process. Procemex offers solutions for web inspection, web monitoring, winder control, and formation management.

With 20 years of experience, Procemex is able to help customers to secure their product quality and minimize expensive production downtime.

Web Inspection / Web Monitoring

Procemex TWIN - designed for operators

The start point of the Procemex TWIN system are machine operators. The system assists operators in handling all production quality and production efficiency items with the aid of a set of computer supported analysis tools.

Under normal running conditions, the left hand monitor is used for displaying live images and a machine efficiency time chart. The right hand display continuously updates a defect map that identifies different defects with respective symbols. Should a machine disturbance occur, e.g. web break or paper defect, the monitors change modus and form a unified user interface that displays a complete story of the event with its original root cause.

For the operator, analysis is easy, as the system classifies paper defects and displays its evolution through the process. It is wholly beneficial for the operator that web breaks, defects, and their root causes are analyzed and displayed in such a clear way.
Automatic Winder Target Control
For broke management
Procemex Target Control System (TCS) enables the operators to remove or repair off-quality production on a re-winder or on a slitter winder. The encoded machine directional position in marked on the edge of sheet on the paper machine. The TCS decodes the length marks and synchronizes the winder automatically to the selected defects.

Formation Measurement
Paper formation measurement takes place in real-time inside the Procemex Flex camera indicating paper contrast, cloudiness, and fiber orientation. The operator can view CD formation profile in full width and also view MD videos constructed from single formation images. The formation values calculated with the PTS method are comparable between different grades and different paper machines thus giving the paper maker real tools to tune the formation of the various products.
RP-SYSTEMS offers systems for wall and ceiling ducts

The Finnish producer RP-Systems with his headquarters in Kotka, is specialized in wall and ceiling ducts. The company offers an easy, quick and inexpensive method in this segment. The RP-conduit method is an easy, quick and inexpensive way to take pipes, channels and other ducts through concrete and stone structures. It is also suitable for the building industry for various pipe and duct conduits with special tightness requirements.

Function

Put elastic glue (SikaFlex FC-11 or similar) between the ribs. Put the RP-sleeve into the diamond drilled hole. Press the RP-sleeve into the diamond drilled hole with a hydraulic installation tool until the highest rib is above the floor level. The installation is ready - no further concrete or painting work needed. The conduit has protruding ribs which make the collar shape tightly within the drilled hole without formwork or grouting.

Benefits

- Excellent strength and tightness
- Fast and easy installation
- Perfect result with minimum work and time
- Overall most cost-effective floor, wall and ceiling conduit