



# THE CORE LINK GUIDE TO EFFICIENT HANDLING OF BROKE ROLLS





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# A NEW CONCEPT

## For broke roll handling



The constant struggle for cutting costs within the paper industry requires the development of new solutions. Introducing new technology is our way to contribute and make it possible to achieve more rational and cost effective production – and increase your future strength and competitiveness.

Within the area of broke roll handling we are introducing new solutions. They will contribute to your ongoing efforts for reducing overall costs. Our solutions can:

- make it possible to reuse the cores
- extend the lifetime of existing pulpers
- make it possible to use smaller pulpers and reduce energy consumption
- reduce maintenance costs and possible breakdowns of the pulper
- reduce the pulper cycle time
- increase the operator's safety
- increased automation level

Our engineers create new, interesting ideas and solutions which are applied to the development of our latest systems for handling broke and butt rolls.

Core Link is a member of the Mustad International Group B.V., a global industrial group founded in Norway in 1832. With this platform, we can offer our customers a reliable partnership based on a long-term perspective.



# Custom Engineering

All customizing springs from the ability to make a detailed analysis around the production requirements as well as having know-how and long-term experience with different possibilities. Our ability to provide both is one of the reasons behind our present market position. To fulfil each customer's requirements involves not only supplying a standard range of machinery – it implies a deeper responsibility. We are able to offer an optimal solution in each and every case and to provide our customers with a complete package from one resourceful supplier.

There are in fact two different areas within broke roll handling where Core Link is active:

## Large broke rolls

Handle and cut down larger broke rolls. Within this area, where conventional roll splitters or guillotines have been the tradition, the roll cutter will offer many more new possibilities. It widens the area of broke roll handling beyond the handling of broke rolls. It also makes it possible to reuse the cores, giving direct savings.

Constant developments are also being made with the roll splitters, to improve the few applications where conventional techniques are favorable.

## Smaller butt rolls

Remove the remaining paper from small butt rolls generated in different types of conversions, sheet cutters, printers, rewinders etc. These systems offer large potential since the cores can be reused, and also by improving the environment and safety around the finishing area. By integrating different systems for core handling we can offer different tailor-made solutions not only for the butt rolls, but also for the undamaged cores.



**There is just a small step from cutting broke rolls to handling cores:**

Core Link has focused on solutions that make it possible to reuse the cores. Regardless of whether you are handling small butt rolls in the converting department or you mainly deal with large broke rolls, we will offer core- and cost-saving solutions.

By combining our experience in handling cores with our knowledge in broke roll handling, we can supply different tailor-made systems for both the broke rolls and the possibility to reuse the cores as well.

By further combining these systems with different solutions, e.g. roll conveyors, we can indeed propose a true turn-key package. We hope that illustrating different ideas and showing you interesting examples will trigger your imagination and that you will challenge us with your ideas.

**Availability  
– both equipment and support**

Efficient after-sales service is a pillar of our business philosophy. We have flexible resources available, whether your needs are for service, spares or future modifications.



# BUTT ROLL HANDLING

Whether you have a rewinder, sheet cutter, printing, or other converting facility, butt rolls are generated. As the butt rolls normally present more of a problem than have any value, the paper needs to be separated from the core. Separated, the paper could – as well as the core – represent a significant value. The traditional ways to handle these butt rolls and thus get the value back are either to cut the paper down with a Stanley knife, use a roll splitter or simply leave it to a waste paper merchant. None of these alternatives is safe or cost effective in the long run.

In order to offer a better option, Core Link has since the early '80s been supplying equipment which removes the paper from butt rolls. Today, there are two techniques available, **core strippers** or **butt roll cutters**.

The latter can also handle tissue paper. As the demands for safety, automation and capacity have increased, the basic equipment has been developed and integrated into complete systems. We are now able to meet most demands for handling broke rolls, from solutions for feeding the butt rolls to the stripping area, to the removal of the reusable cores in carts or whatever would be the best option.



*Sheet cutter and butt rolls*



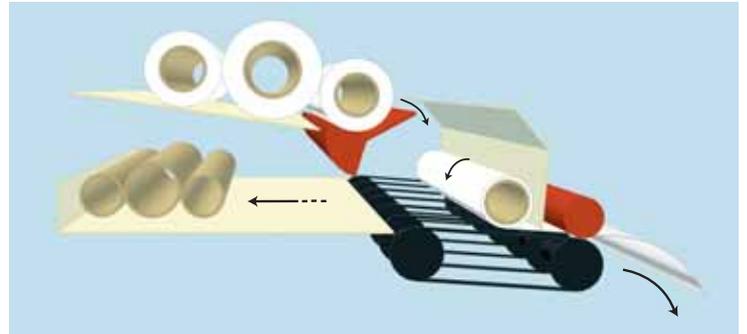
*Butt rolls*

# Core Stripper

The Core Link core stripper (patented) or "core saver" was developed in the '80s for stripping the remaining paper from butt rolls and making it possible to reuse the cores. The possibility to reuse the cores, get the paper back into the process and thus avoid manual handling all create potential for increased profitability. The paper from the core stripper is normally ejected directly to a pulper, but if this is not possible, different options are available. As there is no standard solution, we are able to tailor-make a solution suitable for your specific requirements. The machine can also be extended with different systems for handling the stripped cores.

## System options:

- The basic core stripper for handling paper or board.
- The core stripper can be equipped with a slitting unit for slitting the paper into narrow strips.
- A belt conveyor transporting the paper from the core stripper to the pulper, baler etc.
- A chopper fan which cuts the paper and by air transports it to a baler, pulper or different other options.
- Different systems for feeding the butt rolls to the core stripper, such as conveyors, lifting units, different trolleys etc.
- Systems for conveying and collecting the stripped cores. The cores can be sorted into different racks depending on length, diameter, quality (color), whether they are reusable etc.



Core stripping

## Features and benefits:

- The butt rolls are placed on an infeed table.
- Operates automatically without an operator.
- The core is not damaged and can be reused.
- The annual costs of cores are reduced, when reusing the cores.
- Injuries caused by using Stanley knives, axes etc. are eliminated.
- After the roll has been unwound, the core is automatically ejected to the collecting table or to a conveying system.
- As the butt rolls can be stripped directly, they will not be stored around the mill.



Core stripper



Core stripper with slitter



Core stripper connected to a trim system



Stripped cores automatically sorted in carts

# Butt Roll Cutter

The butt roll cutter (patent pending) is a very useful alternative where the traditional core stripper is not suitable, for example for handling tissue rolls etc. The idea is to feed the butt rolls onto an infeed table. The butt rolls are then fed individually into the paper removal section, where the roll is lifted up and the paper is cut. As the paper is cut, it will fall down onto a conveyor, which transports the paper out of the machine. The paper can be transported directly to a baler, to a pulper or to bins.



*Butt roll cutter*

As with the core stripper, we have lengthy experience in tailor-making solutions for butt roll cutters. To enhance productivity, a number of options are available:

- Different systems for feeding the butt rolls to the butt roll cutter, such as conveyors, lifting units, different trolleys etc.
- A belt conveyor transporting the paper to the pulper, baler etc.
- Shredders which cut the paper, making it possible to transport it by air to a baler, pulper or different other options.
- Systems for conveying and collecting the stripped cores. The cores can be sorted into different racks depending on length, diameter, quality (color), whether they are reusable etc.



*Lifting the butt roll*

**Features and benefits:**

- Manages all paper grades, including tissue!
- Operates automatically without an operator.
- The paper is cut and automatically conveyed out of the machine to the pulper, baler, bins etc.
- The core is not damaged and can be reused.
- The annual costs for cores are reduced, when reusing the cores.
- Injuries caused by using Stanley knives, axes etc. are eliminated.
- After the paper has been removed, the core is automatically ejected to the collecting table or to a conveying system.
- As the butt rolls are not stored in the mill, less storage space is needed.

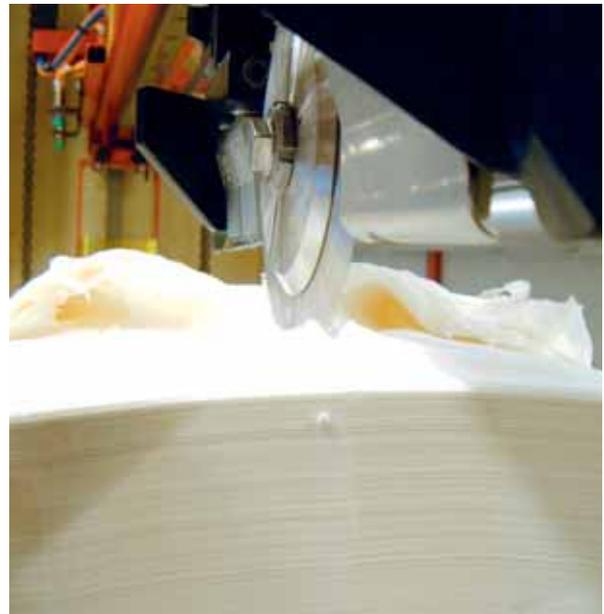


*Cutting sequence*



# BROKE ROLL HANDLING

For handling broke rolls, there are two major techniques: the conventional roll splitters and the newly developed roll cutter. While the roll splitter presses a knife through the roll, thus cutting the roll into large lumps, the roll cutter cuts the roll layer by layer and continuously feeds the paper to the pulper.



*Cutting sequence*

## Broke Roll Cutter

One of the most exciting innovations within broke roll handling in the past few years is the new **Core Link broke roll cutter** (patent pending). It eliminates the high levels of wear in the pulper caused by large batches of paper being dumped into it in one lump. Instead the roll cutter will feed the pulper with an even flow of paper.

Old problems such as leaking hydraulics now belong to the past. Last but not least, the cores will not be destroyed; instead they can be reused, saving money. The system is also very flexible regarding the paper grades it is able to handle.

Some noteworthy features of the roll cutter are:

- The paper is cut in layers, which are fed evenly to the pulper. The paper is dissolved faster, which reduces wear and tear on the pulper. The results are less damage, fewer blockages, lower maintenance costs and down time etc.

- Smaller pulpers can be used, saving costly investments.
- The cores can be reused, saving money.
- Less manual handling, saving time and providing a better working environment.
- Higher degree of safety for the operators.
- No hydraulics leaking oil into the pulper, plus reduced fire hazards.



*Roll cutter CL 410*



*Cutting a jumbo reel*



*Roll loading*



*Cutting*



*Paper fed to pulper*

### Options

Different customer requirements offer the challenge of tailor-making the systems in order to achieve the best productivity, reliability and cost effectiveness in every individual case. To enhance productivity, a number of options are available:

- Belt conveyors.
- Roll lifting devices.
- Loading cells or other systems for giving information about the weight of the paper.

- Systems for having the roll cutter linked with production's computer systems.
- Systems for removing the core from the machine. This will increase efficiency and safety and reduce the manual lifting of cores.

Custom engineering is the heart of our business concept. The roll cutter can be said to symbolize the values we strive for in all stages – i.e. flexibility, cost-efficiency, operator safety and fresh approaches to “classical” problems.



*Roll cutter with tilting table for narrow reels*

### Manual or automatic systems?

The roll cutter can be supplied in different models for either manual or automatic operation. The degree of automation, and which features are suitable, will be evaluated in cooperation with the mill.



*Manual roll cutter*

# Tissue Applications

The new roll cutter eliminates an old problem for tissue paper makers. This is the first system which automatically and reliably cuts tissue rolls. Upon its introduction it was already much appreciated by tissue makers. The alternatives are hazardous manual cutting of the roll or having to dispose of the paper elsewhere. Secondly, the possibility the system offers of reusing the cores is completely unique within

the industry. In tissue making, the core is often of a large diameter, costly and difficult to handle. With the possibility of reusing the core, up to several \$ per core are saved. With 10 rolls per day the annual savings could be tens of thousands of \$ per year just in cores.



*Roll cutter for tissue*



*Roll cutter with tilting table*

The systems supplied by Core Link have been tailor-made to suit the specific requirements of the individual mills. Examples of custom work include transverse conveyors with loading cells linked with production computer systems, systems for loading the paper rolls to the machine, tilting tables, collection of cores etc.

The requirements within the industry are higher than ever. We regard this as a challenge and look forward to presenting innovative and cost-saving solutions in the years to come.



*Cores can be reused*



*Cores fed to where they can easily be removed*

# Roll splitter - Guillotines

Core Link has over the years developed a successful product range of both manual and automatic roll splitters.

Different options are available, such as roll loading devices, loading cells which give information about the paper weight, transverse conveyors feeding the paper to the pulper, a system for automatic portionizing which makes it possible to have the operation partially unmanned etc.

The CL 300 is a manual machine where the broke roll is lifted with a forklift into the machine. The forklift will also remove the split paper and discharge it into the pulper.

The CL 302 is a compact system with a tilting table. The roll is cut down to the core. After the core has been removed, the rest of the roll will be cut. Then the table tilts and each half of the roll can be discharged separately to the pulper.

The CL 310 is a roll splitter where the roll is moved with belt conveyors. This offers the possibility to cut the roll into smaller portions suitable to be discharged into the pulper.



CL 300



CL 302 with tilting table



CL 310



Portionizing



Loading device

# CORE HANDLING AND PREPARATION

Core Link has a well-known reputation as a supplier of core cutters and core handling systems. High-quality Core Link products range from smaller manual core cutters through semi-automatic equipment to fully automatic core cutting and handling systems. Our philosophy is to be able to propose a complete solution for core handling regardless of whether it is for unloading the truck or loading the core cutters, cutting and preparing the cores or feeding the cut cores into the winders. Our knowledge covers the complete range of core handling:

- Solutions for unloading trucks and handling the uncut parent cores, such as overhead cranes, lifting devices etc.
- Different systems for storing the parent cores, i.e. core hoppers or core pickup robots.
- Core cutters: manual and automatic.
- Manual and automatic core preparation equipment, such as notching, reaming, bevelling, plugging, capping or whatever is required.
- Systems for transporting the cut cores to the winders.



*Automatic core cutter with metal end capping and set cart loading*



*Manual core cutter*



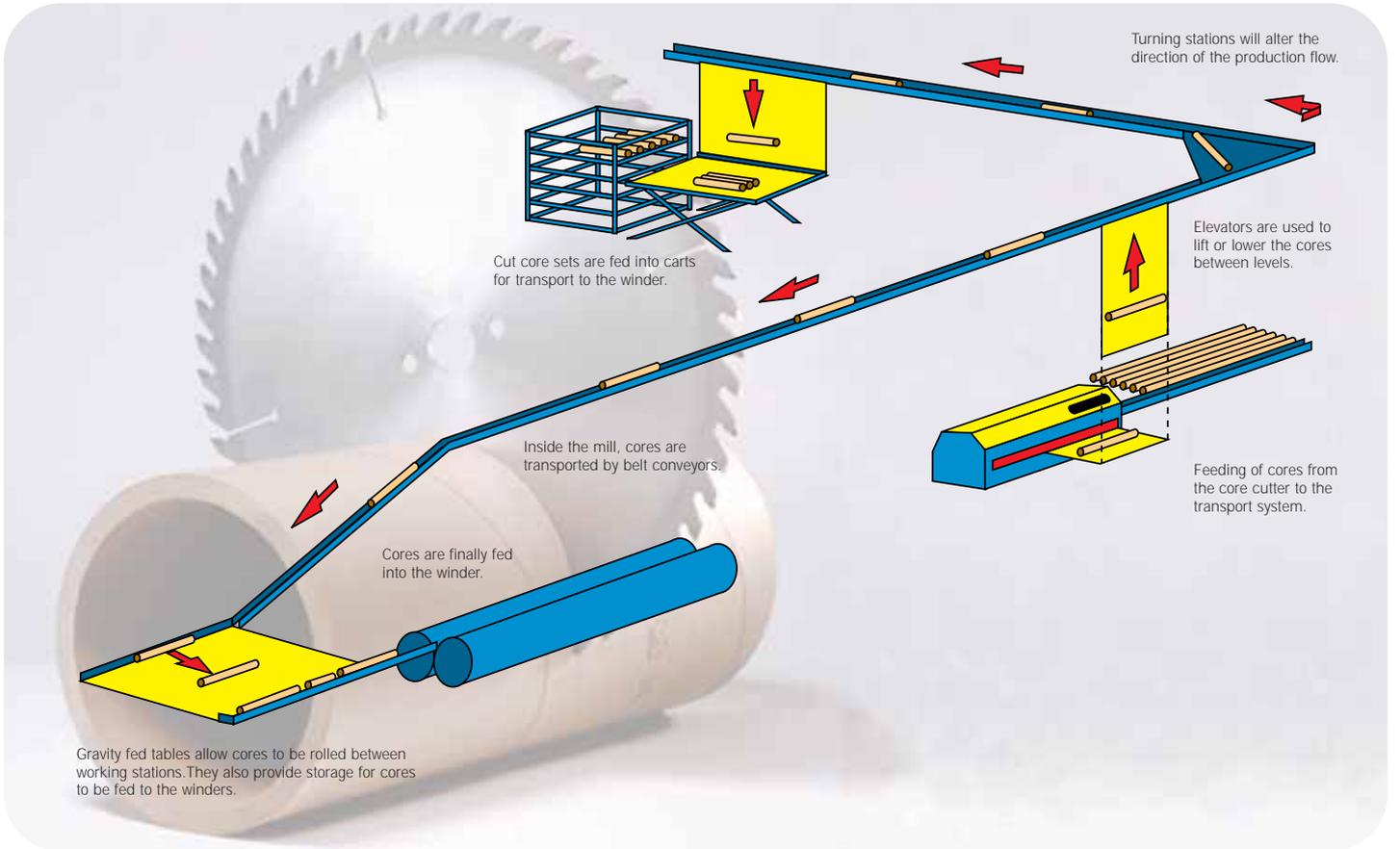
*Unloading trucks*



*Automatic core cutter*



*Core robot*



Capped cores



Plugged cores



Notched core



Reamed ID/OD and Notched core



Bevelled core

“Core Link will contribute to improve productivity and profitability by offering complete systems for core handling and waste roll handling. Our goal is to be the preferred supplier.”



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