Renova
WE NEVER LOSE CONTROL

Renova Braking Systems

Brakes and Clutches

For the unwinding and rewinding of rolls of any size and material.
The Renova's brakes fit any kind of application and maintain constant the web tension throught the whole converting process.

turborex

Patented pnenumatic brake

combirex CX250

pneumatic brake

powderex

powder brakes and clutches

simplex

caliper brakes

CX250

spare parts

Companies that deal with the processing of materials in reels require excellent performance in the web tension control.

In order to optimise the production cycle, it is essential to use systems that guarantee the process continuity and an excellent quality of the semi-finished or finished product. The web tension is the most influential parameter: it is necessary that the correct tension value remains constant during all the work phases through the use of high-quality brakes and clutches to avoid any material breakage of the material as well as ripples that may cause defects on the final product.

The brakes and clutches are mounted on roll stands, winders and unwinders in open loop or closed loop tension control regulation systems.

In open-loop tension control regulation systems brakes and clutches are used together with ultrasonic sensors that detect the diameter of the roll or bobbin, the tension controller that receives the signal from the ultrasonic sensor and which emits an input to the brake in turn. The latter will vary the torque in order to obtain the desired tension

In closed-loop tension control regulation systems brakes and clutches are used together with load cells or dancer rollers to detect the web tension, the tension controller which receives the signal of the ultrasonic sensor and which emits an input to the brake in turn. Finally, the brake will adjust the torque in order to obtain the web tension required.

Pneumatic brakes are the ideal solution for corrugators, unwinders, slitters and rewinders machines, on flexo, rotogravure printing and converting machines – the high torque ratio is necessary to obtain an accurate tension control both in the tensioning phase and in emergency stop situations.

In this case, it is necessary that the pneumatic brakes work at reduced operating temperatures for a constant web tension control at any line speed and for a consistent reduction of the components wear and dust emission in the working place. Complying with these targets, the brakes contributes to a greater respect of the environmental regulations and safety level for the operator as well as to an increase of the machine efficiency and to the reduction of maintenance times and costs.

Magnetic powder brakes and clutches are mainly used in the converting field for printing machines, labelling, flexible packaging, on both unwinders and rewinders. Caliper brakes suit the most diverse applications and are ideal for example in the wire industry on reels unwinders, pay-off stands, extruders, cable treatment lines, braiding machines, tubular stranders, planetary cablers, twisters and others.

Brakes and Clutches for the Web Tension Control

Renova gained a solid experience in the tension control sector, mainly in the field of brakes and clutches, and today boasts of more then 40 years of application know-how.

Renova offers a wide range of pneumatic brakes, magnetic powder brakes and clutches, caliper brakes and spare parts, which includes innovative and patented systems.

They are all designed to manage the web tension with the maximum precision both on unwiders and rewinders to suit any application even in their dimensions and to ensure the highest performance over the time with the highest environmental respect and security level for the operators.

Renova' s brakes and clutches are completely designed and made in Italy and today they are the result of a constant research and continuous improvements based on a consolidated experience and collaboration with most important machine builders and end users in the sectors: Corrugated, Paper, Tissue, Printing, Film, Fabrics in reels, rolls and rollers.

Renova Chuck Systems

Mechanical Chucks

For the unwinding and rewinding of rolls of any size and material.
Designed for shaftless applications, Renova's mechanical core chucks deliver the most reliable web tension with the least maintenance.

duplex
patented roll ejector chuck

expanding core chucks

pneumatic core chucks

side load core chucks

To ensure the most constant tension of the material to be processed during the reel loading and its unwinding or winding on the shaftless reel, it is necessary that the core of the reel, usually made of cardboard, is balanced and blocked with the maximum adherence.

The need to get a perfect grip with the core of the reel should, at the same time, guarantee the integrity of the core. Indeed, damages to the reel's core could preclude its reuse and determine the cases of slipping.

More and more frequently, the quality of materials and the thickness of reels cores do not meet high standard level, thus it is the necessary to use high quality core chucks, which provide optimal adherence without damaging the core.

The expanding core chucks are usually employed within the following industries: cardboard, paper, printing, on corrugators, rolling machine, unwinders and rewinders with motors.

Chucks are used all cases when the weight of the reel is too high or when the reel core diameter is different or, finally, when the width of the machine is too wide for using expanding shafts.

The expanding core chucks substitute old pyramide system through a series of models, more performing and adaptable for different applications:

Single diameter chucks / Monodiametral chucks
Double diametral chucks
Modular chucks

They are suitable for any inner roll and reel core diameter, and in the torque activated, pneumatic and side load versions.

Torque activated mechanical chucks exploit the movement of the reel to expand the gripping jaws elements in order to centre the reel core and block it automatically. Torque activated mechanical chucks are usually used within the paper and corrugated industries.

The pneumo-mechanical chucks are especially suitable for blocking the core in the absence of of any twisting moment and preferably employed within the converting industry. Through the air pressure, the expansion units expand and automatically block the core in place.

The side load chucks are equipped with a pressure system which, expands a series of little keys when introduced within the reel core, thus ensuring the correct and the best grip on the grasp surface.

Mechanical Chucks for the Web Tension Control

Thanks to its robust parts, easy movements and the best expansion of the units, Renova's chucks last over time maintaining high perfomance levels in any production environment, enhancing the security of operators and reducing waste of materials.

Renova's chucks are forged from a single piece with tempered and nickeled steel case without bolts or couplings at the base which could collapse under heavy loads. The mechanical expansion is obtained thanks to three expansion units built and treated to last over time. Renova's mechanical chucks do not need spare parts.

Thanks to the mechanical simplicity, Renova's core chucks are free of moving parts, rollers and springs so to guarantee a continuous operation without the risk of damage or malfunction.

All models can be customised to be suitable to any application and need.
Application sectors: corrugated, paper, tissue paper, converting, printing, film, reels and rolls.

Renova Web Tension Control Systems

Systems for the web tension control in closed-loop system or open-loop system. They keep constant the desired web tension, avoiding the possibility of material breakings in any phase of web processing.

sensorex
load cells

reset
amplifier

isomatic
control panel

e/p converter
transducer

isobox

tension control box

The production of high quality laminates requires a precise detection and control of the tension of a web. The more influent parameter is the tension of the material, for this reason it's necessary to have a tension regulator that ensures a correct and constant value during the whole working process.

The integrated web tension control systems operate an accurate monitoring of the parameters variations and send the correct input to the brake. In this way, the brake can adjust the torque to get the desired web tension, improving the control in open-loop system or close-loop regulation systems.

Open-loop regulation systems use an ultrasonic sensor that detects the diameter of the roll by emitting an ultrasonic pulse towards the reel and reading the reflected signal. The roll diameter data are sent from the sensor to the control panel (tension controller). The tension controller receives the information and forward it to the brake through the emission of an automatic signal.

In case of pneumatic brake, an electropneumatic converter is necessary to convert the electronic signal into a compressed air signal for the brake.

Instead, in case of magnetic powder brake, a power supply module can replace the control panel.

Finally, the brake (or motor) adjusts the torque (or rpm if a motor) in order to obtain the web tension required.

Closed-loop regulation systems use instead load cells (or dancer roller), which detect the web tension and send an input signal to the control panel.

The control panel compares the web tension detected by the load cells with the “set point” and send the input to the brake (or motor).

The web tension control systems are ideal for such sectors as corrugated, converting, paper, printing, plastic film, labels, aluminum, etc.

Integrated Systems for the Web Tension Control and Regulation

Renova offers a wide range of integrated systems for the web tension regulation in open-loop tension or close-loop systems which stand out for their maximum accuracy, linearity, user-friendliness, precision and flexibility.

On unwinders, Renova’s control systems are ideal with our pneumatic brakes or magnetic powder brakes.

Sensorex loads cells, the Reset ampliefer, the Isomatic control panel, the Ep converter transducer, keep constant the desired web tension, avoiding the possibility of material breakings in any phase of web processing.

Renova also provides integrated systems for the tension control like the power supply module AL PWX 5A with microprocessor and current-controlled output for a precise control of the braking torque, regardless of the temperature of the brake.

The non-contact inductive angular sensor SAX 360 with programmable angle of measuring and the ultrasonic sensor USX 500 with programmable measurement field complete the Renova’s control systems range.

Renova Roll Movers called Moviroll

Roll Pushers

Renova’s Moviroll roll pushers improve the productivity as they allow the operator to effortlessly and safely maneuver both large and small cylindrical loads. They are ideal for corrugated rolls, paper and tissue paper rolls, wood/steel rolls for cable, vehicles, etc.

moviroll MRE

Battery roll pushers

moviroll MR

pneumatic roll pushers

moviroll

Accessories & spare parts

The companies dealing with the production and processing of materials in reels or drums need to move reels of any weight and size within the plant, near the work space or in storehouse, often in narrow spaces.

To transport them easily and safely it is necessary that the operator uses suitable specific handling systems allowing reels movement and repositioning on decouville or shuttle carts without any effort.

Movement operations sometimes require (cargo load shipment) to be “pulled” or pushed when laid down on carriages. For this reason, in addition to voluminous systems such as the forklift, compact, manageable and cheaper solutions such as roll pushers are increasingly used.

Roll pushers also known as reel pushers, roll movers or easy mover are innovate solutions suitable for different applications like: cardboard, paper, tissue paper, wire, vehicles, rubber, etc., to move loads even of large volume and weight.

The advantages of using rolls pusher as an alternative to other roll handling systems are:

- Easy to use for all operators
- No driving license required
- Employable near the production lines
- Easy positioning, even in narrow place as for example the reels storage area
- Compliant with safety rules inside the plant
- Elimination of probable injuries due to the manual thrust of cylindrical loads
- Employable both in short and long paths.

MOVIROL ROLL PUSHERS ARE AVAILABLE IN PNEUMATIC AND ELECTRIC BATTERY VERSIONS

The pneumatic roll pushers work thanks to a compressed air system that powers a pneumatic gear motor.

They are ideal for moving vehicles such as cars, buses, trucks, and so on.
The electric roll pushers are equipped with the battery, thus simplifying operators' movements since the absence of power connection cables.

High performance of roll pushers makes them extremely suitable and flexible for any clients application since they can work both with fragile materials as tissue paper and both with resistant ones as reels and drums of cables or metallic wires preserving their quality and avoiding damages.

The Moviroll roll pushers are designed to be compact and resistant so to guarantee productivity increase and safety as they ensure the movement of large or small reels on flat surfaces and their positioning on decouville and shuttle cart thus eliminating any effort of the operator. For this reason, they are also known all over the world as easy mover.

The Moviroll roll pushers are available in several high-quality models: pneumatically driven and lithium battery operated with a series of optionals and accessories, all designed, built and assembled 100% in Italy at Renova site in Sesto San Giovanni, Milan.

Renova's Moviroll roll pushers are suitable for pushing and move up to 20000 Kg rolls of paper and tissue paper with or without plastic film, up to 60000 Kg reels of pipes or cables (with wooden or steel flange) and vehicles such as cars, buses, trucks of up to 20000 kg of weight.

For all enquiries within Australia & NZ, please contact our local representative:

Gary Ramsay
+61 412 588 663

gary@milllink.com.au

Mill Link Services