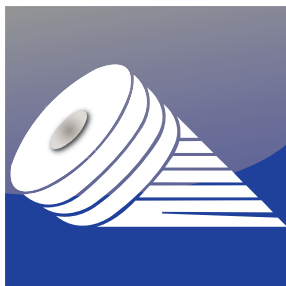


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CALEMARD

by Spolex

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Calemard has always strived to develop and improve the machine installed base. A detailed CIP (Continuous Improvement Process) has been developed to ensure the input of the customer is used to target actions to enhance machine performance.

Based on a modular design our equipment can be divided into 3 modules :

- Unwinding
- Cutting
- Rewinding

This leaflet present you all the Retrofits proposed by our Customer Service referenced by modules

Unwinding module :	Machine		Page
•Static reduction	Orion		4
•Conical or banana shaped rollers	Orion		5
•Directly motorized liner wind-up	Orion		6
Cutting module :			
•Shear cutting cassette		Aquila Sirius	13
•Floating razor blade	Orion	Aquila Sirius	9 & 14
•Automated measuring system	Orion		7
•Crush cutting bench	Orion		8
Rewinding / spooling module :			
•Wind-up bobbin pushers		Aquila Sirius	15
•Individual dancing roll regulation		Aquila Sirius	16
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ORION



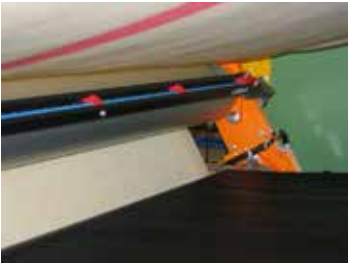
Unwinding module

Static electricity reduction

As seen in many industries that involve machines moving rapidly, companies are faced with a familiar problem - static electricity. The elimination of static during the manufacture of many products is very important to the process. Static can have a negative impact on production, quality control, overall efficiency and cleanliness – and, of course, health and safety of employees.

The Calemard machines are concerned, so we have developed a static reduction retrofit.

By installing a complete Anti Ionisation modification – including electrostatic bar, power unit and all necessary cabling – Calemard can provide a solution that will make static away from your machine.



The anti-static bar positioned along a roll.



The anti-static bar, showing an electrode and cabling.



The ionisation power unit mounted onto the side of the machine.

Unwinding module

Conical or banana shaped rollers

Frequently we have feedback from our customers that the incoming bobbin is not fully even and the material has different tension, either in the middle, at the sides, or from side-to-side.

By installing either a conical or a banana-shaped unwinding bar, the incoming material can be fully controlled and evened-out before the cutting action, ensuring the final bobbin is completely even.

- Highly efficient unwinding action
- Easy to install
- Robust design, with known technology
- Fully tested – numerous retrofits already completed
- Calemard Quality – designed by Calemard.



Adjustement of the position of the curve of the banana roll

Unwinding module

Directly motorized liner wind-up

For older generation Wide-Slitting machines – like the ORION – the design of the liner re-wind section used a clutch-based system. Frequently we had feedback from our customers this was some-times insufficient for the liner.

For many years, Calemard uses a direct motorised system to wind the liner.

We simply replace the clutch-based system with a direct motor transmission and torque regulation.

- Highly efficient liner rewinding
- Easy to install
- Robust design, with known technology
- Fully tested – numerous retrofits already completed
- Calemard Quality – designed by Calemard.

Before Retrofit



After Retrofit



Cutting module

Automated measuring system

During your production chagement you need to reduce downtimes. Easy to use and to install, the automated measuring system, allows quick and precise cutter adjsuements.

By simply adding an automatic measuring system with display and digital lineal, you could get many advantages such as :

- More accurate and reliable positioning
- Save time for adjustment



Display

Lineal

Cursor

Cutting module

Crush cutting bench

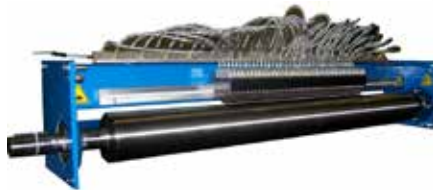
For some older generation slitting machines the standard Mechanical Crush Cut (FE2) was used. For more than 10 years Calemard has been using exclusively Pneumatic Crush Cutting (AO2C) technology. These cutters have a much improved life-time for the cutting wheels and have much better accuracy.

We provide all components necessary to supply the correct air pressure and we replace the mechanical FE2 crush cutters with pneumatic cutters.

- Improved slitting tolerance
- Easy to install
- Improved cutting wheel lifetime
- Adjustable pneumatic pressure (up to 6 Bars)
- Quick disconnect air supply allows the machine to use only the cutters requested and necessary
- Robust design, with known technology
- Fully tested – numerous retrofits already completed
- Calemard Quality – designed by Calemard



Before Retrofit



After Retrofit

Cutting module

Floating razor blade kit

By simply adding our floating razor blade cutting module you could get many advantages such as avoiding cutting cords inside the product.



Complete Kit



Blades support



Razor blade

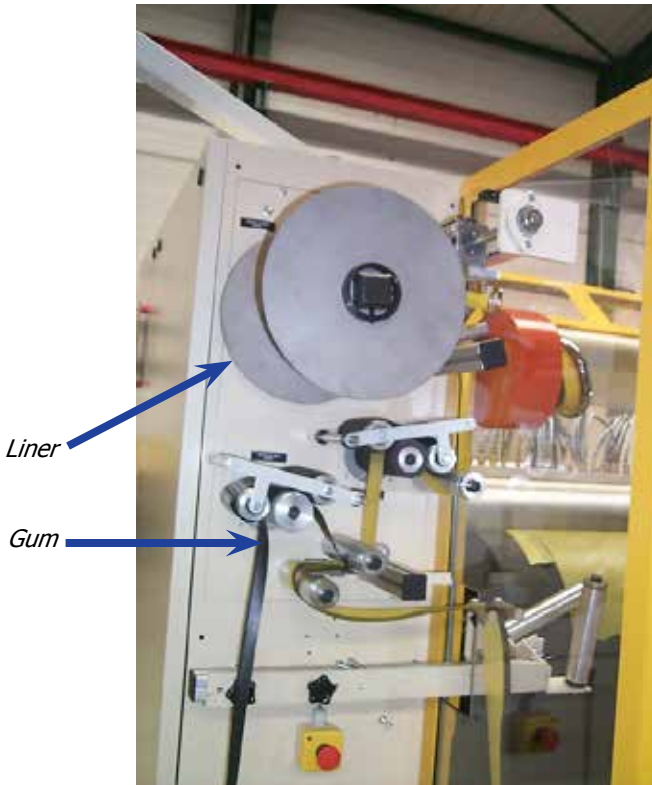
Rewinding module

Selvages extraction liner wind-up for recycling

The re-utilisation of the liner that is cut at the edges – the selvedge – has become important for all tire manufacturers, both in terms of cost and also for environmental concerns. A retrofit exists on the Wide-Slitting machines – like the ORION – that will separate the selvedge product from the liner and then wind-up the liner for easy subsequent usage.

By replacing the existing simple selvedge extraction with a separation and then liner wind-up system.

- Highly efficient liner rewinding
- Easy to install
- Easy use of recycled liner
- Robust design, with known technology
- Fully tested – numerous retrofits already completed
- Calemard Quality – designed by Calemard.



Rewinding module

Gap winding

We can propose you this solution if the tension inside your product is not constant or if the thickness of your product is not regular.

Our Gap winding solution combines friction bars to rewind each strip with the necessary tension and tangential rewindings : the pancakes don't touch the main drawing

- Winding always good
- No stop machine due to bad rewinding
- Tension independent in each spool



Open shafts



Closed shafts



AQUILA LINE



SIRIUS LINE



AQUILA/SIRIUS

Cutting module

Shear cutting cassette

This new & improved rigid system of cantilever-based shear cutting will lead to less machine down-time as it increases the speed the cutting tools change-out.

Also, as there are less adjustments of lateral pressure and penetration, improving the quality of cut. This can lead to significant cost reduction due to an increase in the life-time of the cutting parts

We propose the replacement of the old cutting module with a new cutting cassette module. This new cassette brings a rigidity to the cut shafts which are mechanically maintained to avoid possible inflections of the shaft ends.

- The compactness of the module
- Modular design ensures the retrofit is fast & simple and machine is back in production with minimum downtime
- Transmission added to the higher shaft
- Reduced downtime for cutter and under-cutter change-out :
 - * for the cutters, the replacement is using a pre-adjusted shaft
 - * for counter-cutters the principle of pre-sleeve adjustment is preserved
- New capability to adjust the angle between the cutter arm and the under-cutter arm
- Reduction in maintenance cost due to increased life-time of cutting parts
- Improved rigidity of the shear-cut shaft

Also, benefit from a « Total solution » approach - combine the Shear Cutting Cassette Retrofit with an annual « Cutting Edge Contract » with Calemard.



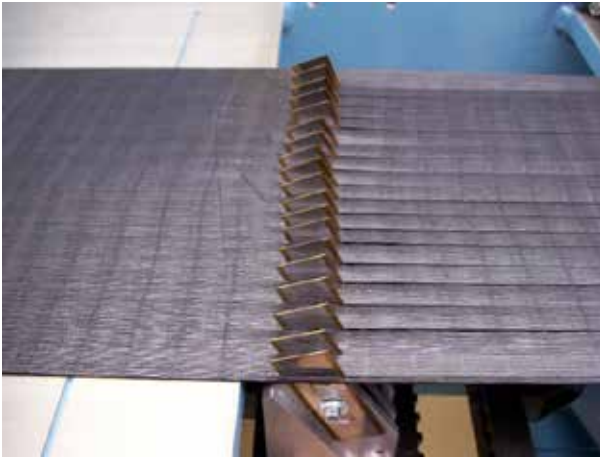
Cutting module

Floating razor blade

To not cut cords inside the product

By simply adding our floating razor blade cutting module you could get many advantages such as :

- No cords cut
- Better unwinding on Tire Building Machines



Operating position



Ready position

Rewinding module

Wind-up bobbin pushers and unloading trolley

To improve the ergonomics of unloading bobbins on the wind-up section of the Aquila mini-slitter.

By installing “pushers” that essentially automatically push the bobbins onto our unloading trolley.

- Major time-saving unloading operation
- Highly efficient “pushing” action
- Easy to install
- Adjustable unloading height to suite your existing storage
- Robust design, with known technology
- Fully tested – numerous retrofits already completed
- Calemard Quality – designed by Calemard.



Pusher



Unlaoding trolley

Rewinding module

I Individual dancing roll regulation

To avoid tension bumps in the product

To have an uniform spool

To reduce the «tack» in the spool and facilitate unwinding

With a new weight loaded dancing roll instead of the pressure regulated jack.

- Constant tension in the product
- better unwinding on Tire Building machines (TBM)
- Less swapp



Weight

Dancing roll

Rewinding module

I Individual pressure regulation winding units

By adding pressure regulation for each wind-up we replace the standard set-up of 1 pressure regulation for 3 positions, in order to :

- Allow to adjust the tension in each strip



One pressure regulator by spool unit

Rewinding module

Winding improvement

We could propose for your line a general improvement of the winding.

This improvement includes arms with counter weights lay-on arms adapted to the width of the material, change of motor direction, boxes and parameter change to vectorial arm control.

This retrofit will allow you :

- To wind between 2 flanges
- To avoid bump tension in the product
- To have an uniform spool
- To reduce «tack» in the spool and improve the unwinding



Counter weight

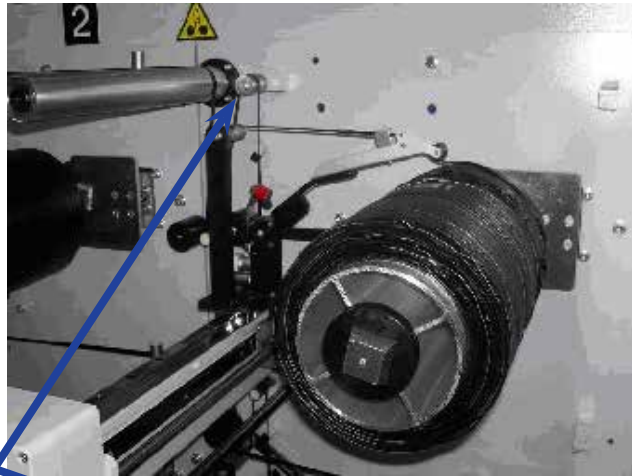
Rewinding module

Anti reverse roll

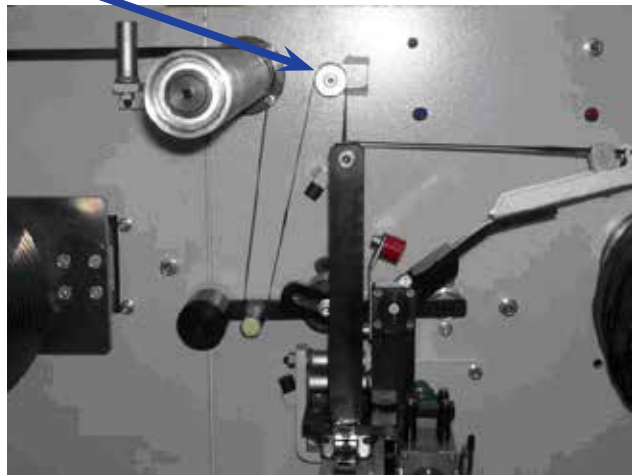
To avoid loose tapes and spools which may cause dancing roll failures.

With implementing an anti reverse roll on the product circulation.

- Productivity gain
- Directly automatic start up of the machine (without impulse start up to retighten the product)
- Avoid tape/deviation rolls breaking



*Anti
reverse
roll*



Rewinding module

Spooling capacities increase

To increase your production capacities, we have developed stand alone spooling equipment to be added to your existing line. You could add our module to reach 18 spooling heads and 24 on request depending on product width.

Easy and cost effective solution to increase your production :

- Stand alone equipment
- Plug and play equipment
- Easy to install
- Robust design, with known technology
- Fully tested – numerous retrofits already completed
- Calemard Quality – designed by Calemard.



Before Retrofit



After Retrofit

Security

Laser scanner

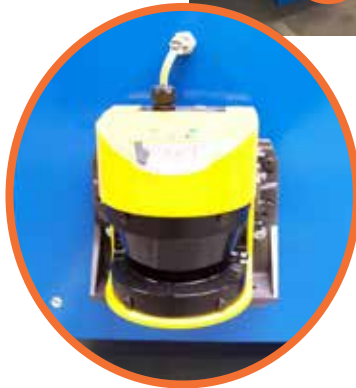
To reduce safety curtains breakdown and to delimit safety area on demand, we propose to install a laser scanner which meets last regulations safety norm for your machine.

We could replace safety curtains and safety cables by a laser, on unwinding or/and rewinding module.

- Save place
- No possibility to break it



Laser scanner



MACHINES CONCERNED :

- Athena / SM
- Orion / TF / TCF
- Tucana / TW
- Vega / GT

Calemard's Customer Services missions

- Demonstration equipment for product trials and process feasibility. Don't hesitate to send us your products or to submit your modification requests
- Start up and commissioning of equipment worldwide. Our engineer start up for an optimal production of our equipments.
- Training of customer's operators. Our Service propose training of your operators to optimize our machine use and increase your productivity.
- After sales service for maintenance and spare parts supply.
- Equipment performances evaluation and retrofit to keep your investment up-to-date.

Calemard's and other machines improvement

CALEMARD

by Spoolex

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