

SAVIO SOLUTIONS PACKAGES FOR DYEING PROCESS

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#PACKAGES FOR DYEING PROCESS

Dyeing is the application of pigments on textile materials such as fibers, yarns, and fabrics with the goal of achieving color with desired fastness.

There are many forms of yarn dyeing. Common forms are the package form and the hanks form.

The term dyeing package usually denotes any type of yarn wound on perforated solid dyeing tubes or cones. Yarn dyeing in package form is done under high pressure, this helps in forcing the dye liquor to penetrate to the core of the yarn. The dye flows through to the yarn package with the help of the perforations in the tube package. Most carded and combed yarn that is used for knitted outer wear is package dyed.

The package weight and density are two important parameters which are to be standardized for uniform and trouble-free dyeing.

Factors like yarn count, winding angle, yarn tension during winding, diameter and traverse stroke, all affect the package building and must be considered while selecting a machine for package winding.

Savio winding machines for all kind of short staple yarns are suitable for dye package winding, warping preparation and rewinding with or without waxing devices.

The soft package winding is the most important pre-dyeing operation, which directly affects not only the dyeing quality but also post dyeing operations such as rejects, wastages, thread breakages etc.

“Soft” packages ready for dyeing with optimal and constant density and with an accurate yarn laying, guarantee the best possible dye penetration during the dyeing phase, a perfect uniformity between the inner and outer part of the soft package.

SAVIO SOLUTIONS FOR DYEING PACKAGES

MANY YEARS OF EXPERIENCE AND A CLOSE COLLABORATION WITH CUSTOMERS HAVE ALLOWED SAVIO TO OFFER SOLUTIONS FOR PRODUCTION OF DYED PACKAGES. "MULTICONE" TECHNOLOGY AND SIRIUS TWISTING MACHINES ARE ESPECIALLY ADDRESSED TO OUR CUSTOMERS PRODUCING PACKAGES FOR DYEING AND VERY FINE COUNTS, FROM NM 200 AND ABOVE.



MULTICONE THE DIGITAL YARN LAYERING TECHNOLOGY

Available on
Eco PulsarS Plus
Polar Evolution



The different downstream processes need a wide flexibility in the wound package construction, to optimize its specific efficiencies. Cones for dyeing, warp, weft, knitting and twisting require completely different formation characteristics in terms of geometry, shape of the edges and density. Savio Multicone electronic thread guide system is now the solution to achieve flexibility in package formation. This solution guarantees precise and controlled filling of the yarn, especially in the areas of the package edges, where the dynamics are more critical because of stroke inversion effect.

Multicone improves efficiency for dyeing process because:

- 15%-20% higher production due to the capability of thread guide layering system to reach the required density at a higher speed, versus the standard drum winding.
- Easy dyestuff penetration flow, through the whole package due to the controlled yarn layering to cover all the perforated tube area.
- Absence of color shade variation, due to consistent package density structure, including edges and flanks area.
- Process time reduction since packages can be automatically produced with edges and flanks tapered or rounded shaped.
- Optimization of dye stuff quantity and time process.

PACKAGE EDGES



Soft edges values are ensured by different stroke length. Several edges shapes (taper or round) are ensured by linear or curvilinear reduction stroke ratio. Savio simplified PC interface allows to easily program with few settings the working parameters and can be easily selected by any mill operator; this computer flexibility allows reducing setup times. The Multicone thread guide electronic control allows to set winding angle, traverse stroke, position on the package tube and the yarn distribution over the package. All above improves design and formation of the package, optimizing all the downstream processes, thus allowing customers to obtain the best results.

On an advanced setting page, the user can interact with a visual interface on the PC screen for almost drawing the final package, by setting the stroke mode variations along the package diameters. The user is able to customize and tailor the package design, according to his requirements for the downstream process.

DYEING KIT (OPTIONAL)

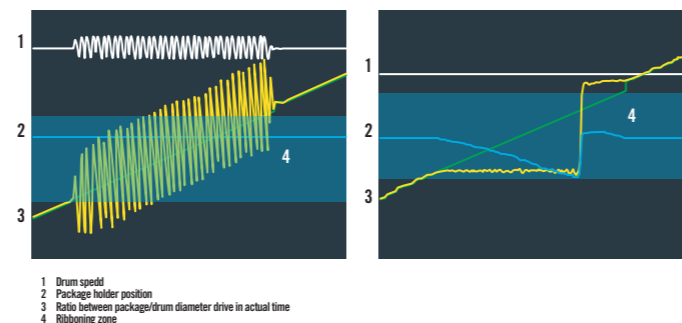
Available on
Eco PulsarS Plus
Polar Evolution



Savio winding units can be equipped with a "Dyeing Kit" that allows customers to process on the same machine both hard and soft packages with the same universal drum, by setting few working parameters on the PC interface. The universal drum 93/98 and the axial displacement are the right compromise for producing packages for different downstream processes (obtainable density about 0,32-0,36 gr/cm3). This solution enables customers to maximize their return on investment.

C.A.P. COMPUTER AIDED PACKAGE® (OPTIONAL)

Available on
Eco PulsarS Plus
Polar Evolution



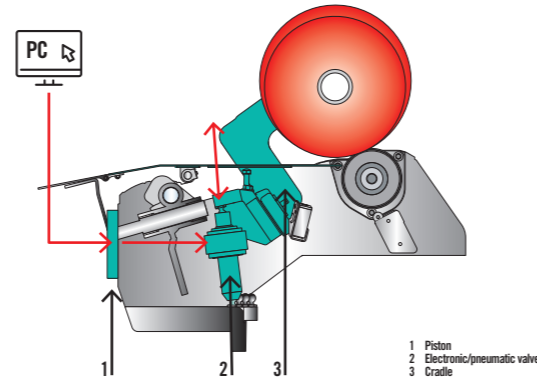
The "Computer Aided Package" (C.A.P.®) system is capable to eliminate the ribbon totally from the package. This unique system produces package without ribbon and ensures the minimum possibility of breakage, slug-off during unwinding at a very high speed, particularly in fine count, results into higher efficiency in Weaving & Warping department.

- All parameters are set in the main machine pc and managed by each individual and independent winding head in total autonomy;
- The system operates also during the cycle acceleration after the splicing cycle;
- Axial displacement (optional) can also be used for dyeing package in combination with C.A.P.;

- Drum speed does not change during the package formation;
- Package metering is more accurate than electronic anti-patterning system.

C.A.D. DENSITY CONTROL (OPTIONAL)

Available on
Eco PulsarS Plus
Polar Evolution



Dyeing packages require a very perfect control of package density, which can be activated by this feature. Beyond the winding tension control (C.A.T) by the tensioning devices, the package density and build up also depends on the contact pressure of the package on the drum. A special feature, optionally available, where the load of the package on the drum is controlled by an electronically controlled pressure regulator which adjusts the pressure of the counterweight piston in accordance density value required for the package. This optional is recommended for special applications like wool and soft packages (0,32 gr/cm³).

C.A.D. - Computer Aided Density (Optional)

- Control of the package load on the drum.
- The package weight increase is detected by the length metering; consequently, the "electronic/pneumatic valve" is activated.
- Customized package load curve.
- The relevant parameters are programmable and stored in the machine PC.

SPLICER LIBRARY

Available on
Eco PulsarS Plus
Polar Evolution



Savio winding unit can be equipped with different splicing solutions according to the type of yarn, for ensuring perfect joints and perfect package shape. **Jointair and Moistair**® splicers boasts a Duo Air Feeding system, for yarn tail preparation and splicing. This splitting allows the individual setting of the most appropriate value

of air pressure, and makes these splicers able to easily process any different fibers and blends combination. Another solution is the **Water splicer**, where the splicing operation is made under vacuum while the water is injected.

"R" VERSION WINDER FEEDING FROM PACKAGES

Available on
Eco PulsarS Plus
Polar Evolution



R VERSION allows rewinding of packages of any taper, producing packages ideal for any subsequent use. The main fields of use are rewinding packages coming from the dyeing process, packages of different shapes and contents, packages coming from Open End spinning frames and packages remains. This type features an automatic feed change (one standby package), also available in manual package feed.

TWO-FOR-ONE TWISTING

Available on
Sirius



Twisting is of great importance not only in the context of manufacturing costs, but also as a real completion of a production cycle, therefore very interesting in terms of yarn quality. SIRIUS Two-for-One twister has been realized to support the entire Savio spindle range. You can choose the best spindle according to dimension, weight and density of feeding package. The Electronic Drive System allows to set via PC any working parameter, introducing an important flexibility element, allowing to reduce set up times. The thread guide electronic control allows to set winding angle, traverse stroke, position on the package tube and the yarn distribution over the package.

All above improves design and formation of the package for dyeing process, optimizing all the downstream processes, thus allowing customers to obtain the best results.

INNOVATIVE AND DIVERSIFIED PRODUCT PORTFOLIO FEATURING BEST-IN-CLASS TECHNOLOGICAL KNOW-HOW

Since 1911, Savio has always looked to stay ahead of competition and predict important development across the global textile industry. As a leading supplier of winding machines for manufacturing yarns from short-staple fibers, Savio offers products and services that are tailored to satisfy every customer needs. Savio offer consistent mix of quality and efficiency, providing state-of-the art technological solutions for yarn quality control and allowing best value-for-money proposition.



COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =
= ISO 14001 =



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We reserve the right to modify the characteristics of the machines described herein without prior notice. The data given in this brochure are not intended as a guarantee. Savio machines are equipped with safety devices in compliance with existing regulations.