

SAVIO SOLUTIONS FLAX LINEN

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#FLAX LINEN

Once one of the world's most common textiles, linen now represents only 1% of global apparel fibers in use. It is the oldest known plant fiber used to make textiles and was widely used until displaced by cotton. Primary apparel uses are for suits, shirting, summer wear and home textile applications. Flax is a cellulosic fiber that is found in the stems of the annual plant *Linum sitatissimum*. Flax plants produce a fiber bundle that contains many closely-packed cells that provide significant strength to the resulting linen. Flax is grown and consumed primarily in China, Russia, Poland, the United States, Italy, and France.

The flax plant is eradicated from the ground so as to have the maximum fiber length. The stems are left to macerate so that the fibers can get rid of the rubbery substances. After maceration, the textile fibers are separated from wood residues and then combed, which eliminates shorter fibers and impurities. At this point the fiber is ready for spinning. Linen is classified according to the degree of fineness of the fibers: fine linens, which are used for thin yarns, suitable for the production of fine fabrics (batiste cloth) of lace and lace, lint-free linens that are woven into common fabrics; thick linens for ordinary fabrics. Flax fabrics are used for making household linen (tablecloths, sheets, towels) and for both male and female summer clothing. Being a rigid fiber, the garments take on a wrinkled appearance, a distinguishing main feature. Linen fibers can be mixed with cotton, wool, silk, viscose and polyester fibers which give the fabric greater resistance and better weft regularity.

Flax and Spinning

Flax can be spun in many ways, including ring spinning, rotor spinning, depending on purpose. Flax fiber may be wet or dry spun, though the majority of producers use wet-spinning methods. Wet spinning is special to flax as it produces high quality yarn.

Spinning of flax fiber is very slow compared to other fibers and does not have high levels of automation. This is due to the long and irregular fibers, which have low elongation and high rigidity.

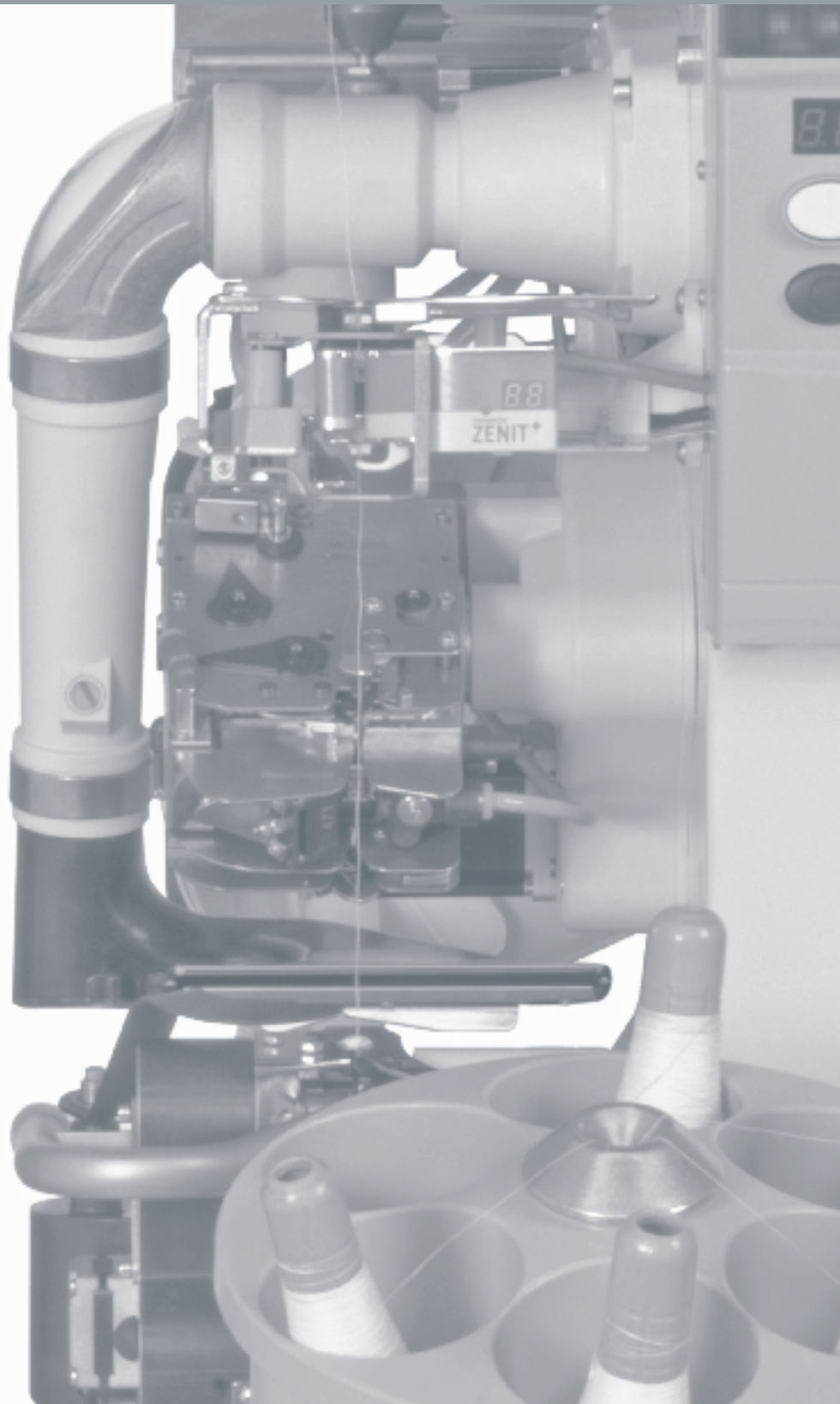
The yarn is then wound and prepared for weaving or knitting. Paraffin wax is added if the yarn will be knitted. Linen fibers may be spun with cotton, wool, silk, hemp, viscose, polyester, or a variety of other fibers to produce blended yarns. Flax may be "cottonized" by reducing the size of the fiber to a staple length similar to cotton, which allows for processing with other fibers, such as cotton, on existing equipment.

Features of LINEN fibers:

- Typically stronger than cotton
 - Stronger when wet
 - Resistant to stretching and shrinking
 - Resistant to bleaching
 - Quick-drying
 - Abrasion-resistant
 - Retains heat-set pleats and creases
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SAVIO SOLUTIONS FOR FLAX YARN PROCESSING

SAVIO HAS OVER 40 YEARS OF EXPERIENCE IN THE AUTOMATIC WINDING OF WET-SPUN LINEN. SINCE THIS YARN IS VERY STIFF AND HIGHLY ABRASIVE, GREAT ATTENTION HAS BEEN PAID TO YARN CONTROL DURING THE WINDING PROCESS. FOR THIS PURPOSE, CERAMIC DEVICES ARE PROVIDED TO PREVENT WEAR OF THE PARTS AND THUS ALLOW AN OPTIMAL YARN PATH.



“F” VERSION PROCESSING WET SPUN FLAX YARNS

The POLAR EVOLUTION winder for wet spun flax yarns is equipped with a special “flax kit” able to overcome the low content of yarn in the bobbin, the high percentage of defects in the yarn and fiber stiffness.

Technical features

Count range: wet spun flax yarns from Nm 6 to 80.

Feeding bobbins: tube length from 180 to 350 mm, with a bobbin diameter of 32 to 72mm.



Available on
Polar Evolution

FLAX KIT ALONG THE YARN PATH

Ceramic devices: to control flax yarn which is commonly known to be very stiff and highly abrasive, effective ceramic devices have been embedded to protect against wear.



Available on
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WATER SPLICER

Available on
Polar Evolution



Thanks to the Watersplicer, a watertight splicing device, the quality, resistance and appearance of the linen joints have reached excellent levels. The splicing operation is made under vacuum while the water is injected (Duo-Stage). This is the only water splicer on the market where splicing is firstly done in a watertight chamber, and secondly with adequate vacuum in the splicing chamber, thus allowing top quality joint.

- Main application range:
- Linen yarns
 - Cotton 100% coarse counts (flat and fancy yarns)
 - Cotton 100% compact yarns
 - Mercerized/singed yarns
 - Elastomeric yarns
 - Two ply yarns
 - Open End yarns
 - Synthetic yarns

YARN-TRAP-GATE ON CLEARER

Available on
Polar Evolution



The stiffness and rigidity of the yarn, along with the presence of surface imperfections - which are the beauty of linen, makes the thread shaking a lot on its path to the package. Hence the need of a special trap to ensure a precise reading by the yarn clearer.

TREATED BALLOON BREAKER

Available on
Polar Evolution



A new shape and position for the balloon breaker allows less pressure on the yarn and therefore greater productivity and quality. To ensure a smooth separation of the layers as the wet spun process tend to glue them together, a new shaped balloon breaker is utilized. The same is made out of hardened metal to withstand abrasion.

PACKAGE CRADLE

Available on
Polar Evolution



Special operation of package cradle to avoid entanglements. Due to the nature of linen in case of a cut or bobbin change, the cut end may be falling at nose side making difficult to pick it up for splicing. Therefore the adapters open slightly during back winding, thus freeing the trapped end. This to minimize manual intervention and to maximize efficiency.

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.