



MODULAR CONTINUOUS RANGE
FOR CHEMICAL PROCESSES



LET YOUR
CREATIVITY BLOOM!



DREAMAIR



SHOULD I GET IT? WHY?

DREAMAIR was born upon the dream of performing all specialty wet finishing which require high mechanical action (*enzyming, caustifications, fibrillation, weight reduction, etc.*) in a continuous process, with total repeatability and safe from any crease marks, lusterings or abrasions.

In other terms the challenge was to overcome the limits of current discontinuous finishing equipments (*air tumblers, air flow dyeing equipments, rotary drum tumblers, etc.*) and give all sensitive finishers the chance to unchain their creativity and access to high end added value finishing in an industrial and safe mode.

The combination of intense mechanical action with chemicals within a continuous process, moves forward the finishers creativity, setting **DREAMAIR** as the new benchmark of added value finishing.

DREAMAIR can perform all kind of chemical applications on various fabric compositions, structures and processes, from silky goods to shirting to denim and bottom weights up to the new cellulosic fibers (*lyocell, cupro*) and poliester, both on woven and knitwear.

A huge variety of potential solutions for anyone seeking to escape from the price battle and breath - for a while - the healing air of uniqueness:

**LET YOURSELF
BE A DREAMAIR!**

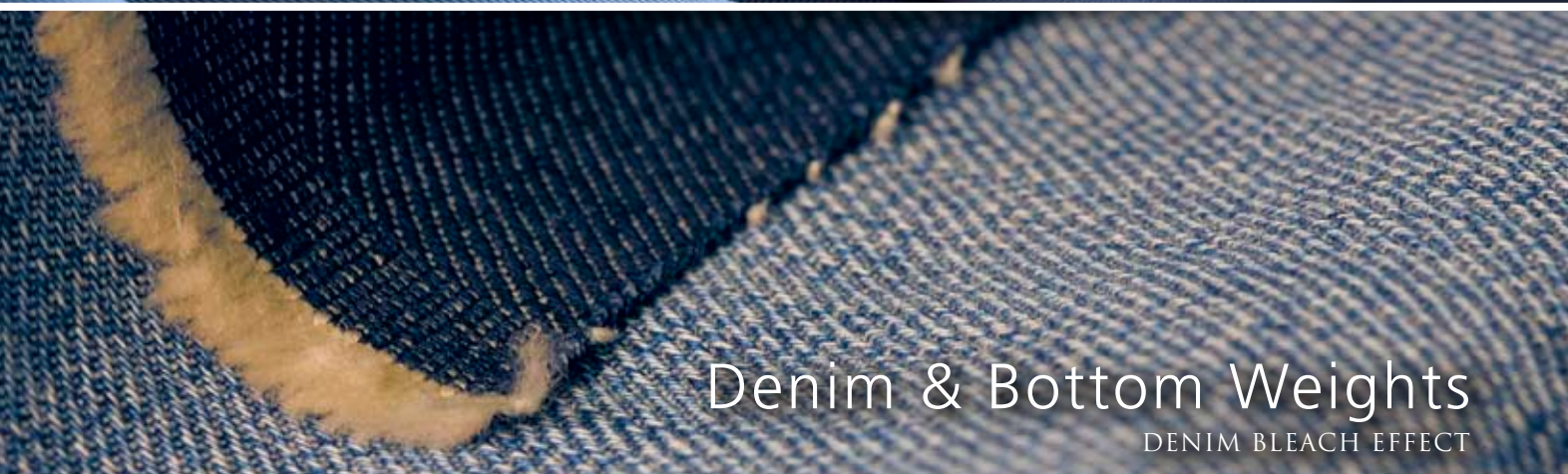


Silky Goods
FROSTY LOOK



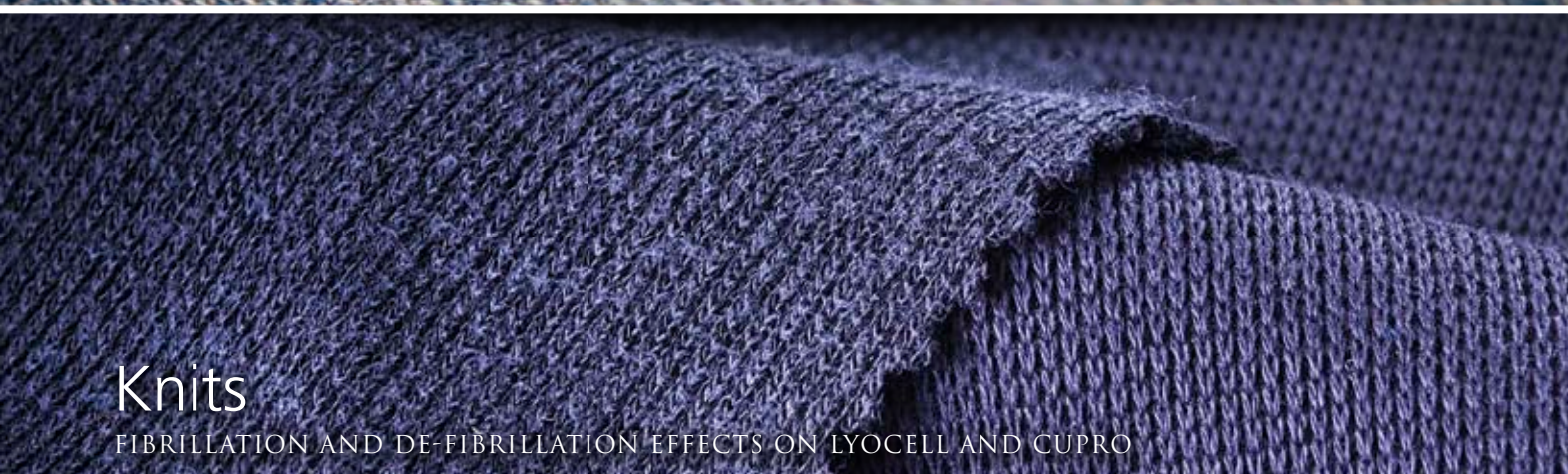
Shirting

FIBRILLATION AND DE-FIBRILLATION EFFECTS ON LYOCCELL AND CUPRO



Denim & Bottom Weights

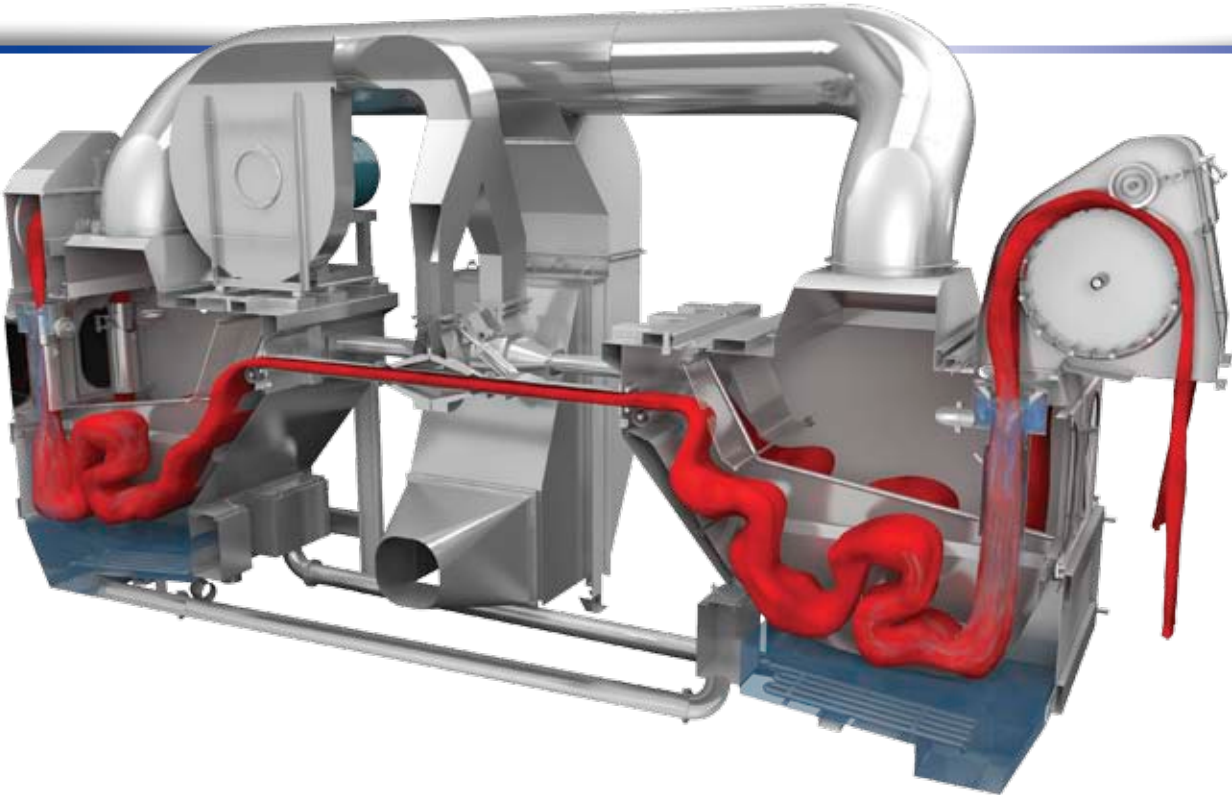
DENIM BLEACH EFFECT



Knits

FIBRILLATION AND DE-FIBRILLATION EFFECTS ON LYOCCELL AND CUPRO





THE POWER OF THE AIR

1

AIR AS SOLELY MEAN OF TRANSPORTATION

ZERO DEFECTS
The exclusive air transportation system ensures no defects: no marks, no lusterings.

EFFECTIVENESS
The air pressure guarantees incomparable penetration of water and chemicals, resulting in higher washing effectiveness.

2

MECHANICAL ACTION

AGGRESSIVENESS
The combined action of air pressure and impact on stainless steel grids moves the fabric structure and eases the performance of chemicals.

FREQUENCY
The alternated motion generates a high frequency of impacts (each 25-30 seconds), at least 6 times more than conventional discontinuous processes.

3

DRYING & STEAMING

- The use of a drying module in **DreamAIR** enables high drying capacity and maximum tumbling effect.
- Steam injection into **DreamAIR** generates shrinkage and yarn swelling.

THE POWER OF WATER

1

THE ACTION OF WATER

ZERO DEFECTS
4 nozzles per module (2 of which against the stream) ensure a uniform penetration of water and chemicals.

EFFECTIVENESS
The water flows against the stream of the goods enhancing the washing performances and enabling a safe fabric rinsing.

2

SAVINGS

WATER
Water consumption varies from 3 to 5 lt per kg fabric, with consistent water **saving of 50-60%** compared to conventional discontinuous washings.

ENERGY
Power consumption per kg fabrics is 50% less than conventional methods.

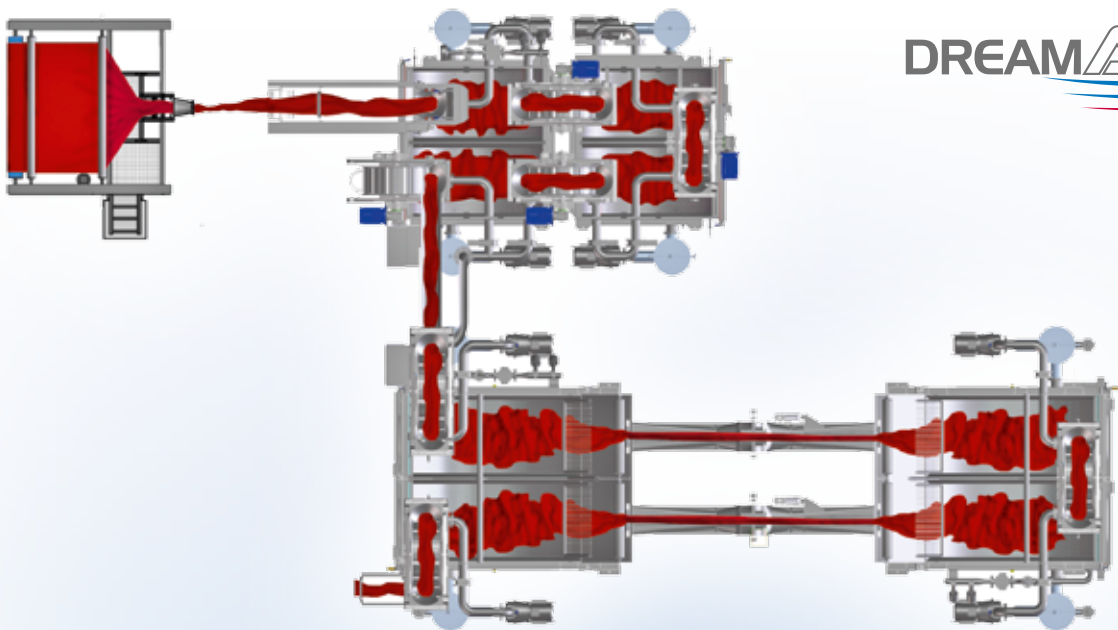
LABOR
Labor is reduced to standard control procedures.

3

CHEMICALS

- Dedicated dosing pumps for 4 types of chemicals (*f.l.*: enzymes, acetic, detergents, soda).
- Optional kier separation for different chemical application in the two channels.
- Independent temperature control in each of the 4 vats.
- Saving of around **40%** of chemicals.

APPLICATION	EFFECTS	ADVANTAGES
SILKY GOODS	• Frosty Look • Silk degumming • Silky touch on polyester (Syn_Silk)	• Continuous Process • Zero defects due to air transportation • Repeatability • 60% water and chemicals
SHIRTING & LINEN	• Fibrillation / Defibrillation • Slackin[®] Effect • Mill Wash Effect / Worn out	• Continuous & Repeatable Process • Better dimensional stability • Substantial absence of pilling
DENIM & BOTTOM WEIGHTS	• Delavè • Slackin[®] Effect • Washdown overdyed • Denim bleach	• Comfort, yarn swelling and relaxation shrinkage • Continuous, repeatable & economical (<i>almost no labour</i>)
KNITS	• Niki Plush pop up • Silky touch on polyester (Syn_Silk) • Fibrillation / Defibrillation • Polar fleece lamb skin look • Slackin[®] Effect	• Highest output on the market • Even pile standing (<i>no marble look</i>) • Continuous and repeatable • Labour almost erased





THE POWER OF THE AIR

The powerful action of the air through centrifugal blower, smashes the goods back and forth **each 25 seconds** in an alternated motion, thus enabling an intense mechanical action and reduced permanence time, free from crease marks or defects whatsoever.



DYNAMIC NOZZLES

4 flows per module, 2 in stream and 2 against the stream keep the fabric constantly wet with water & chemicals. The dynamic nozzles enable the fabric inversion (*international patent*).



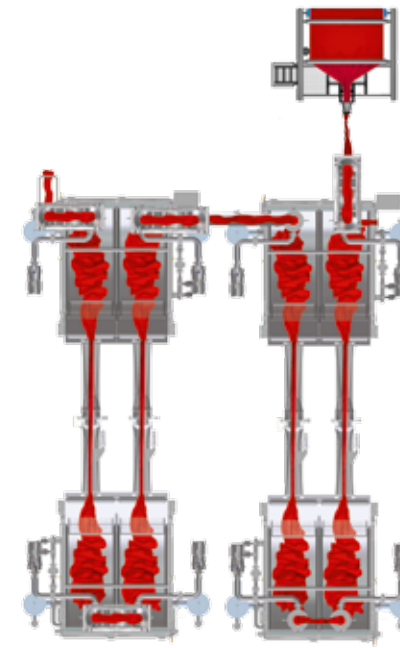
DEDICATED CHEMICAL PUMPS

The whole setup is **totally flexible** with customized number of pumps for chemicals and auxiliary precision dosing (*caustic soda, enzymes, acetic acid, etc.*).



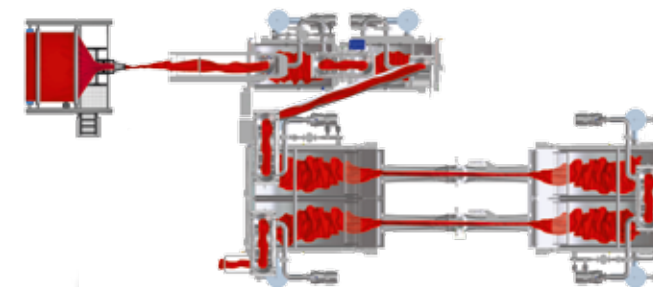
HYDRAULICS

Each kier is equipped with its own pump, filter and heat exchanger for independent temperature control. Kiers can be separated in two different channels to enable different chemicals applications.



Slackin® EFFECT

This new revolutionary effect through a 24 Be caustification process in relax mode, combined with an aggressive mechanical action during washing enables a total fabric stability, a consistent weight increase, a better colour grip and an exclusive handle. Process pfd fabric caustification, development and rinsing in **DreamAIR**, detwister and squeezing.



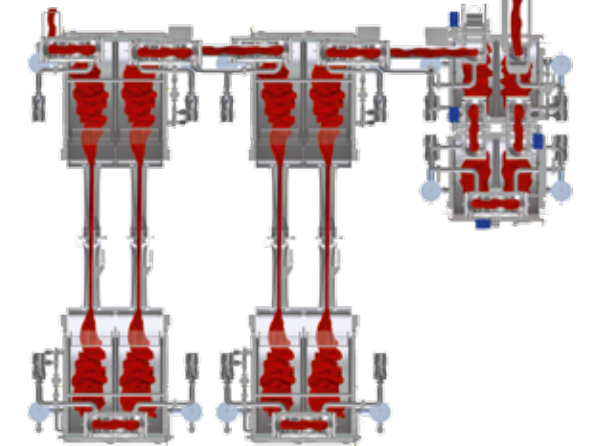
DELAVÈ, ENZYMING, BLEACHING

Now you can achieve an uniform color fade on various dyestuffs, such as indantrene, sulfurous, indigo, vats, reactivities and even in pigment prints or coatings, thanks to the continuous moving of the fabric rope without any mechanical traction.

DreamAIR chemical wash followed by an intense rinsing and neutralization in Wanny, then detwister and final squeezing.

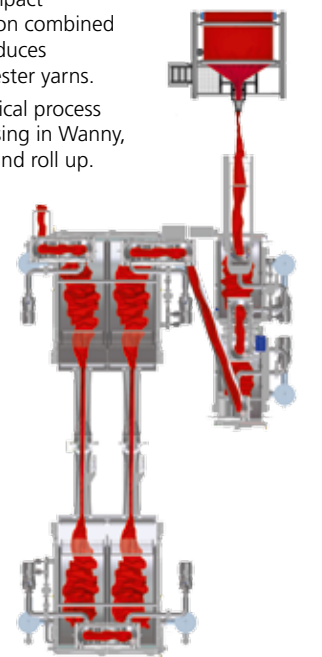
FIBRILLATION, DEFIBRILLATION

Cellulosic fibers such as cupro, polynosics, lyocell and blends can finally be processed in continuous with absolute repeatability and without fear of crease marks thanks to the exclusive air transportation system. First, a caustification step creates the primary fibrillation. After dyeing, an enzyming process, neutralizing, opening, squeezing & roll up.



SYN-SILK: SILKY TOUCH IN POLYESTER

The aggressive mechanical impact generated by air transportation combined with the chemical action produces a notable silky touch of polyester yarns. Soon after the physical/chemical process in **DreamAIR**, an intense rinsing in Wanny, then detwister, pad mangle and roll up.





ENAIRGY

Continuous drying, steaming and tumbling equipment in open width and rope form.

DREAMAIR

Continuous range for enzyming and chemical processes in rope form.

WANNY

Continuous modular overflow.

DESAIR

Continuous drying, steaming and tumbling equipment for tubular and open width knits.

FOULARD

Squeezing and impregnation mangles with 2 or 3 rollers.

TRIPPO

Modular discontinuous rotary drum tumbler.

PENTAIR

Discontinuous washing, drying, steaming and tumbling equipment.

FUTURA

Milling & Scouring equipment for worsted wool and blends with exclusive 3 Rollers traction system.

PENTA

Complete milling and scouring line with 2 or 4 channels with double upper shaft.

RAPID WASH

Quick scouring for wool fabrics.

WWW.PENTEK.IT

PENTEK TEXTILE MACHINERY SRL

Via Parugiano di Sotto, 41 | 59013 Montemurlo (PO) ITALY

tel. +39 0574 064594 | fax +39 0574 064580 | info@pentek.it