

Automatic winding  
Autoconer 338, 5, X5, 6, X6

**RIETER**

# Propack FX and Variopack FX

Increasing package quality and optimizing productivity

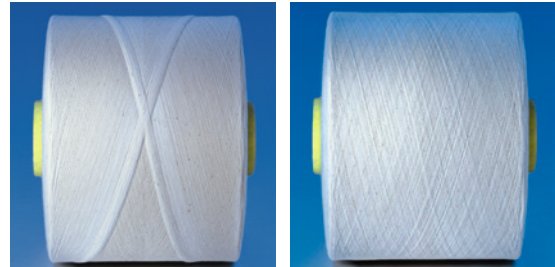
## Your benefits:

- Improved package quality for efficient downstream processing
- Higher efficiency in winding process, easier handling
- Stable package build-up for elastic materials



# Improved Package Quality and Increasing Take-Up Speeds

Pattern zones are typically of random-wound packages in drum winding which can have an impact on the homogeneity of the package structure. To avoid creation of critical pattern zones, Propack FX, the electronic package-cradle anti-patterning system, was developed. Both entanglements and sloughing-off layers during unwinding and uneven dyeing are a thing of the past. Using Propack FX has a positive impact both on the winding process and the efficiency in downstream processes.



Package with critical pattern zones

Propack FX helps avoid creation of critical pattern zones

## Propack FX – benefits for the winding process

### Improved package quality due to elimination of critical pattern zones

- No differences in package density, within the package and from package to package
- No diameter limitations

### Higher productivity

- Reduced package acceleration time due to higher contact pressure at the start of winding after yarn break, clearer cut or bobbin change
- No time-consuming mechanical settings of cradle pressure at each winding unit

### Simplified operation

- Central setting of cradle pressure
- Central storage of the set cradle pressure in the operating unit
- Reproducible settings at different machines

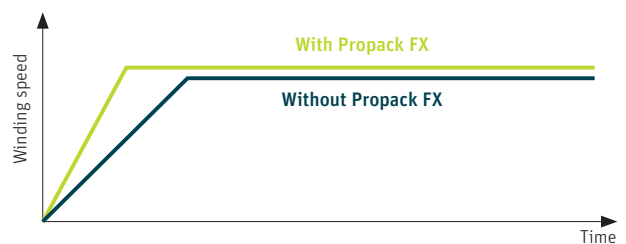
## Propack FX – benefits for the downstream processing

### Enhanced performance in weaving

- Higher take-up speeds
- No entanglements and sloughing-off layers during unwinding
- No diameter limitations, large diameter for high efficiency

### Enhanced performance in dyeing

- Uniform dyeing of packages due to even package density within the package
- Highly reproducible dye results due to central settings



Propack FX launch control for the drum of the winding unit

## Propack FX – functional principle

The speed ratio between drum and package is sensor-monitored. Shortly before reaching a critical package diameter for pattern zones creation, for instance a zone with a critical speed ratio between the drum and the package, a specific amount of extra slippage of the package relative to the drum is produced by reducing the cradle pressure. The package thus skips the critical speed ratio and winding is done below the critical patterning speed. The package is »lifted« over the critical pattern zone. This process is automatically coordinated to the specific conditions of the different types of drums used. Safe and proper laying of the yarn on the package is ensured in each phase of the winding process due to the constant contact of drum and package.

# Perfectly Formed Packages with Variopack FX

The most important topic for winding elastic materials is the optimization of the package structure. Packages of elastic materials, such as elastic core yarns, Wool or Wool-Siro yarns, tend to have their shape badly deformed by bulging-out flanks. Influencing factors are:

- the yarn tension
- the package contact pressure
- the degree of elasticity of the material

Variopack FX prevents packages from bulging out package flanks resulting in an improved handling and logistics in the downstream processing. The following two pictures show packages wound from identical yarn under identical conditions, without and with Variopack FX.



Package without Variopack FX

Package with Variopack FX

## Functional principle

Variopack FX is the intelligent combination of the two systems Autotense FX and Propack FX to coordinate both influencing factors for bulging-out package flanks. During winding the yarn receives a slight pre-tension. Arrived on the package, the yarn tries to “shrink back” to its original length. In the process, the outer yarn layers exert growing pressure on the inner layers. These inner layers cannot withstand this pressure. When a certain diameter is reached, the yarn body collapses. The inner yarn layers are forced to bulge out. The greater the elasticity of the material, the more pronounced the bulging-out of the package flanks.


The Variopack FX system coordinates the two winding parameters yarn tension and contact pressure during the formation of the package in such a way that no bulging-out of the package flanks can occur. The stabilization of the package format will be reached, because the inner layers are built-up so stable that they can better withstand the pressure of the outer layers. Due to the optimum adjustment of the independent parameters, yarn tension and cradle-pressure, a reduction of the stress on the inner layers can be reached.

## Benefits for the downstream processing

Autoconer with Variopack FX can produce packages with elastic yarns, even with large diameters, with perfectly formed package flanks.

- Uniform package build-up with no bulging-out of package flanks
- Optimum unwinding behaviour in downstream processing, the yarn take-off is trouble-free and dyeing gives no problem.
- No handling problems in the downstream processes and in packing, packages of all common shapes can now be placed on top of one another.





**Rieter Machine Works Ltd.**

Klosterstrasse 20  
CH-8406 Winterthur  
T +41 52 208 7171  
F +41 52 208 8320  
machines@rieter.com  
aftersales@rieter.com

**Rieter India Private Ltd.**

Gat No. 768/2, Village Wing  
Shindewadi-Bhor Road  
Taluka Khandala, District Satara  
IN-Maharashtra 412 801  
T +91 2169 664 141  
F +91 2169 664 226

**Rieter (China) Textile  
Instruments Co., Ltd.**

390 West Hehai Road  
Changzhou 213022, Jiangsu  
P.R. China  
T +86 519 8511 0675  
F +86 519 8511 0673

[www.rieter.com](http://www.rieter.com)

The data and illustrations in this brochure and on the corresponding data carrier refer to the date of printing. Rieter reserves the right to make any necessary changes at any time and without special notice. Rieter systems and Rieter innovations are protected by patents.

3538-v1 en 2211