

## Main specifications

### Yarn kinds

Natural & manmade staple fibers

### Yarn count

Ne7 to Ne142 (Nm12 to Nm240)

### Supply bobbin size:

a ...Min. 15mm

b ...Min. 10mm

D...Magazine Max ø50(ø75)

Bobbin-tray / Link Coner Max ø57

L...Max260mm(Magazine 360mm)

### Winding shape

0 to 5°57'

### Winding traverse

82mm(3 1/4") - 152mm(6")

### Maximum package diameter

ø320mm / 6" cone

### Number of spindles

#### •Magazine

10-spindle system ... Max60

12-spindle system ... Max96

#### •VCF, Bobbin-tray

10-spindle system ... Max60

12-spindle system ... Max72

#### •Link Coner

8~60 spindle (every 2-spindle, excluding 14-spindle)

### Yarn supply magazine

9-can magazine (6-can magazine)

### Yarn joining method: Mach Splicer

Cassette type splicer

### Tensor

PC tensor

### Blower

Individual blower / 15kW (option), 11kW, 7.5kW

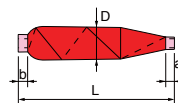
### Winding speed

Maximum 1,800m/min

\*Depending on the yarn type, supply bobbin and machine specification.

### Package drive

DC Brushless motor direct drive



### Monitoring device

VOS-III (Visual On-demand System)

### Yarn detector

Photo-electric feeler

### Yarn clearer

Capacity or Optical yarn clearer

depending upon your request

### Standard equipment

Ceramic cutter

Kink Preventing system (Hard waste reducer)

Sloughing catcher

Suction shutter

Vibration sensor

PC Tensor

PC Bal-Con

PC Sensor

PLC21 (Perfect Length Counter 21)

Traverse sensor

Auto Bobbin-Centering Function

Blower with Static pressure control (individual blower)

Blow cleaner (except for Link Coner)

Package conveyor (except for Magazine)

Package shutter (Bobbin-tray, VCF)

Plus Run System (except for Magazine)

S-Feed control (except for Magazine)

AD (Automatic doffer) (except for Magazine)

Empty bobbin sorting table (Only with Line conveyor) (only for Magazine)

2 cop robos with 1 kind yarn supply (only for Bobbin-tray)

2 cop robos with 2 kind yarn supply (only for VCF)

Bunch remover (only for VCF)

Beater (only for VCF)

Rotary cutter (only for VCF)

Air splicer with 3-tier nozzle

Hot splicer

Waxing device

Upper yarn sensor

Dust collector

Blow cleaner (only for Link Coner)

### Optional equipment

S.A.S. (Stretch Air Splicer)

Water/Air Hybrid splicer

Water splicer with beater

Air splicer with 3-tier nozzle

Hot splicer

Waxing device

Upper yarn sensor

Dust collector

Blow cleaner (only for Link Coner)

Package conveyor (only for Magazine)

Package shutter (Magazine, Link Coner)

AD (Automatic doffer) (only for Magazine)

Mule bobbin conveyor (only for Magazine)

Split conveyor (only for Magazine)

Wide line conveyor (only for Magazine)

Bobbin stripper (only for Link Coner)

Bobbin exchanger (Ejector + Chuter) (only for Link Coner)

Bobbin chuter (Only for Link Coner)

2 cop robos with 1 kind yarn supply (Link Coner, VCF)

2 cop robos with 2 kind yarn supply (only for Bobbin-tray)

Dual chute system (only for Bobbin-tray)

VCF Advance (for Fan box type) (only for VCF)

Square box type with sorting function (only for VCF)

Fan box type with sorting function (only for VCF)

Beater (Link Coner, Bobbin-tray)

Bottom searcher (Bobbin-tray, VCF)

Rotary cutter (only for Bobbin-tray)

Side suction (except for Magazine)

Auto balance

Additional Magazine (only for Link Coner)

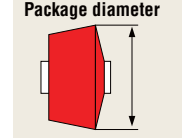
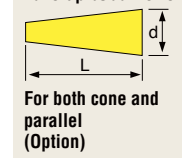
Spin inspector (only for Link Coner)

Underground linking system (only for Link Coner)

Tray selector (Bobbin-tray, VCF)

### AD Specifications

<b>Doffing Time</b>	10seconds	
<b>Traveling speed of AD carriage</b>	Maximum 52m/min	
<b>Amount of take-up tube stock</b>	0°: 5pieces	4°20': 6pieces
	3°30': 7pieces	5°57': 5pieces
	3°51': 5pieces	
<b>Take-up bobbin size</b>	Standard specifications:	
	Minimum diameter (d): ø50mm Maximum diameter (d): ø88mm Length (L) : Max 176mm	
<b>For both cone and parallel (Option)</b>	Cone 4°20'	Maximum diameter(d) : ø63~65mm
	5°57'	Maximum diameter(d) : ø72~74mm
	Parallel	Maximum diameter(d) : ø58~65mm Length (L) : 165~175mm
<b>Package diameter</b>	Maximum : ø300mm	
	Minimum : ø140mm	



**muratec**

PROCESS CONER II **FPRO EX**

Automatic Winder

**muratec**

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**MURATA MACHINERY, LTD.**  
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We reserve our right to modify them at any time, to be confirmed by authorized specification.

CAT. NO. 21P8W2 19-04-2(FR-NS)

Jun. 2019

**MURATA MACHINERY**

# FPRO EX Overview

## ARMS reaching out toward future technology.

In our pursuit for the best device and ideal layout for winding, we offer an automatic winder with a pattern-less package that supports a wide range of strict requirements and makes high speed and high precision production possible.



### Direct-Package-Drive

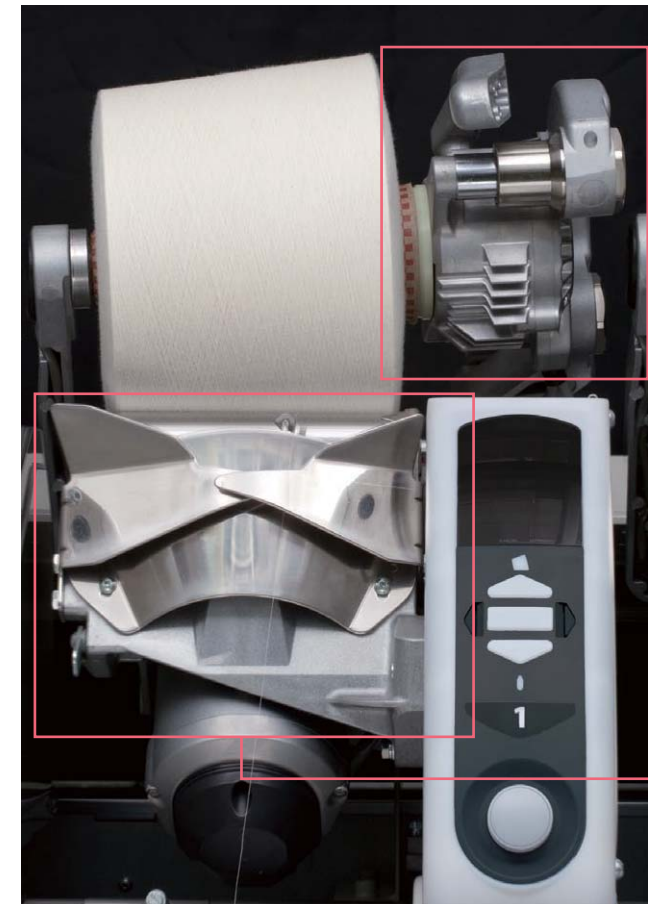
By rotating the package directly from its motor, this drive offers stable and secure winding while saving energy.

### Active-Arm-Traversal

With package designs that support various applications, this feature offers high quality package forming with perfect unwinding performance through the use of step precision and precision winding.

# Excellent Unwinding Performance

Optimized traverse angle and precisely layered yarn, offers ribbon-free package for better unwinding.



Motor for package drive



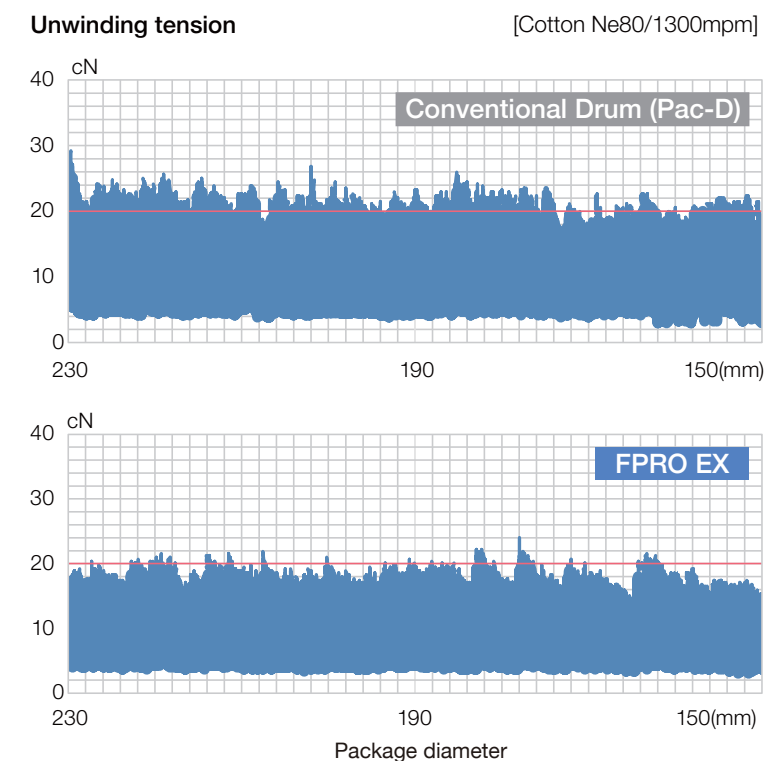
Synchronization



Traverse

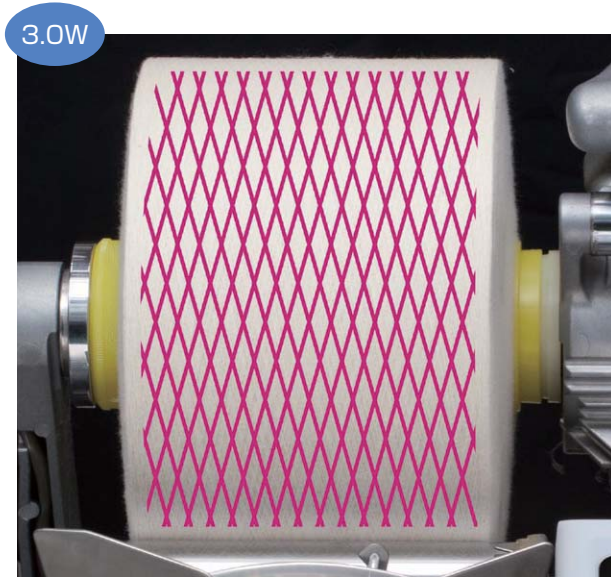
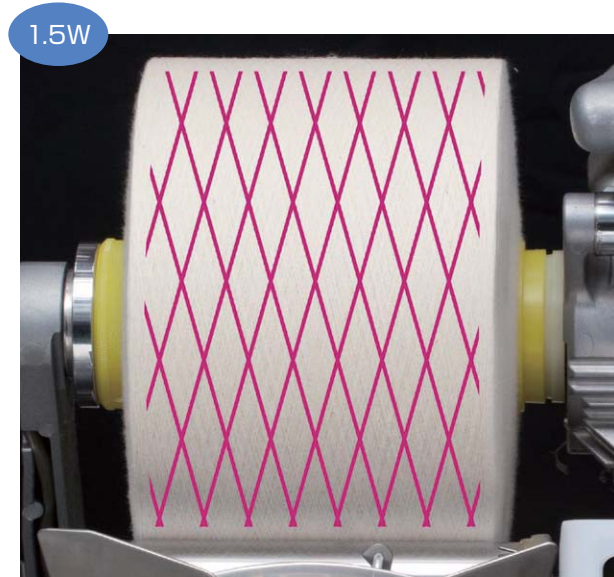
Function	Package	Notes
Traverse angle setting	1.5W → 3W	Adaptable for high-density and low-density winding.
Multi package angle	→	Adaptable for parallel winding as well as taper, upto 5 degree 57 minutes.
Traverse width setting	82mm → 152mm	Adaptable for traverse winding from 3"1/4 to 6".
Creeping control	↓ ↑	Controls the flange height during soft winding, etc., to increase uniformity.

## Larger packages are available with super fine count



# Flexible Package Density

The traverse angle can be set easily in order to achieve exceptionally uniformed package density.



Thanks to flexible traverse angle and stroke,

Soft package is achievable without winding speed reduction.

➔ Higher production for soft package

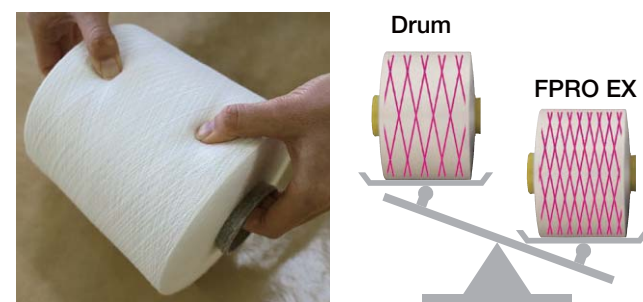
High density package is achievable without tension increase.

- ➔ •Large package with super fine count
- Packing cost reduction
- High efficiency of twisting process

## High production for dyeing packages

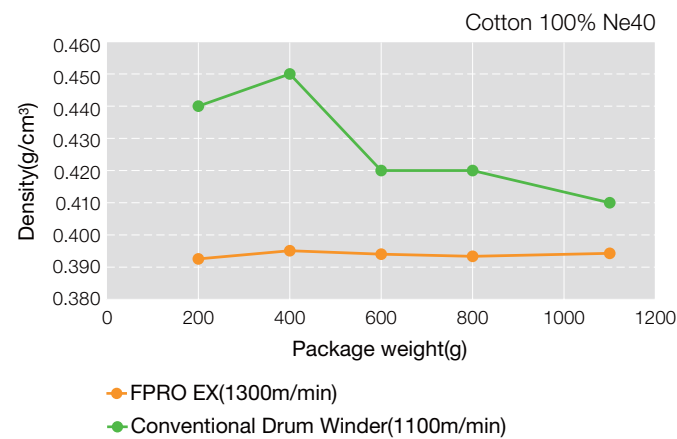
Comparison of yarn production between FPRO EX & Drum winding  
Cotton 100% Ne30

	Number of Winds	Package Density	Winding Speed
FPRO EX	1.6W	0.36g/cm <sup>3</sup>	1300m/min.
Drum	2W	0.36g/cm <sup>3</sup>	800m/min.



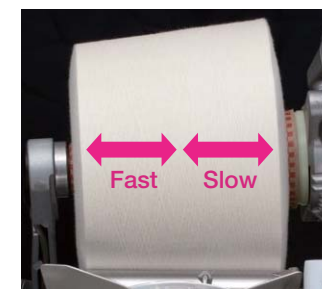
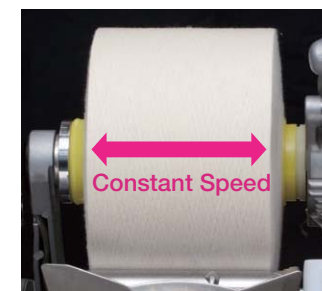
## Package Density

FPRO EX achieves more stable density in any package weight than conventional drum winder, allowing for good dyeing performance.



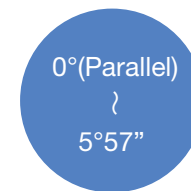
# Flexible Package Shape

Various package shapes are achievable by easy operation without drum change, via touch panel of VOS(Visual On-demand System).



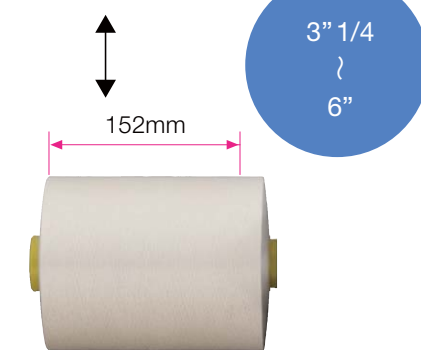
## Multi Package Angle

Flexible combination of traverse angle and winding speed can be easily programmed.



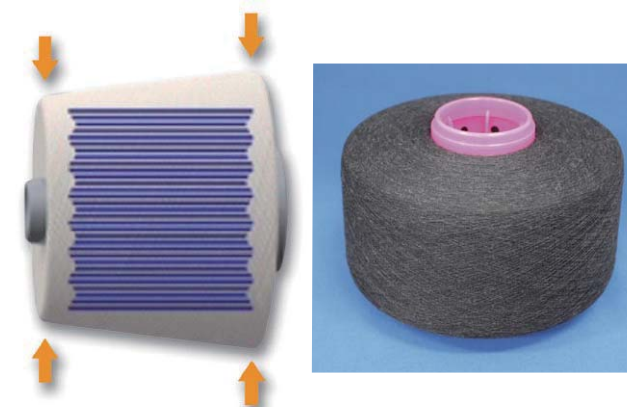
## Traverse Width

The winding width of the package can be customized with a simple setting.



## Creeping Control

Prevents hard edge in order to achieve uniform package density.



## Tapered End

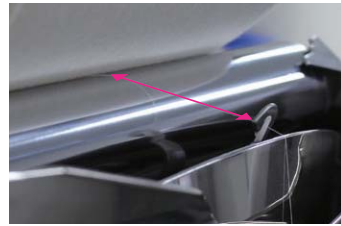
It avoids latching and eliminates entanglements & slippage of yarn layers particularly in less-hairiness yarn.



# Precise Winding

## Shorter distance from traverse guide to package

FPRO EX was designed to have shorter length from traverse guide to package at any position.

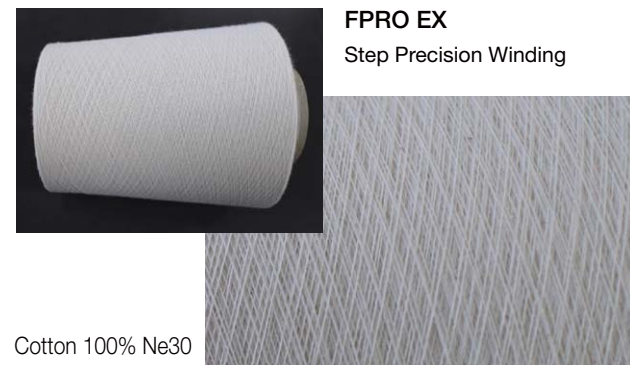


## Hook-shaped Traverse Guide

The hook-shaped traverse guide supports stable winding.



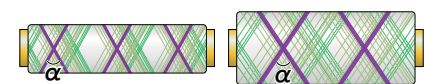
## Uniformed Package Density



## Step Precision Winding

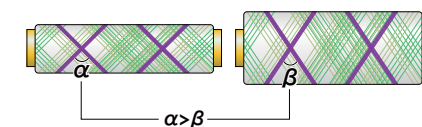
### Drum Winding

- (+) Package density is uniform because the traverse angle stay constant.
- (-) Some ribbons initiate because it cannot completely avoid the ribbon layers.



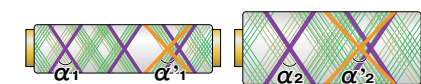
### Precision Winding

- (+) No ribbon initiates because the number of winds is constant and never go across ribbon layers.
- (-) Package density is not uniform because the traverse angle gets smaller as package gets larger.

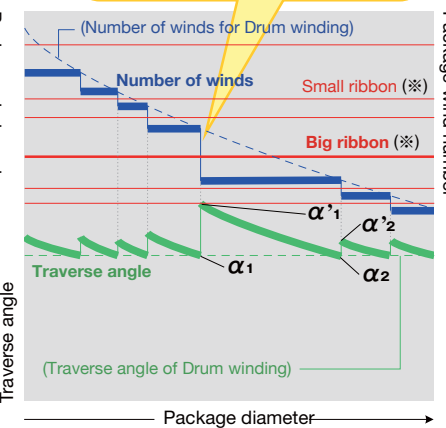
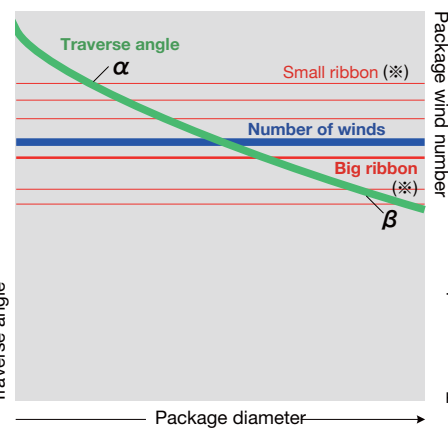
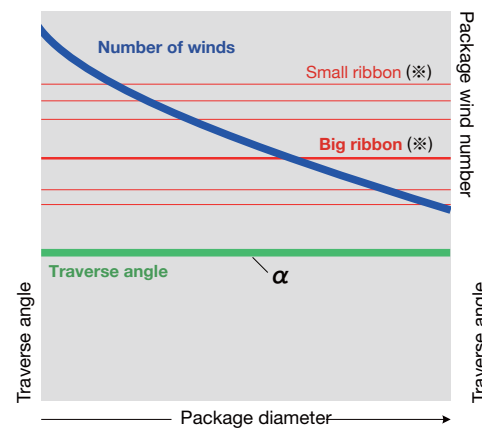


### Step Precision Winding

- (+) Package density is uniform and no ribbon initiates. The number of winds decrease step by step with actively changing the traverse angle, so that all ribbons are completely avoided.



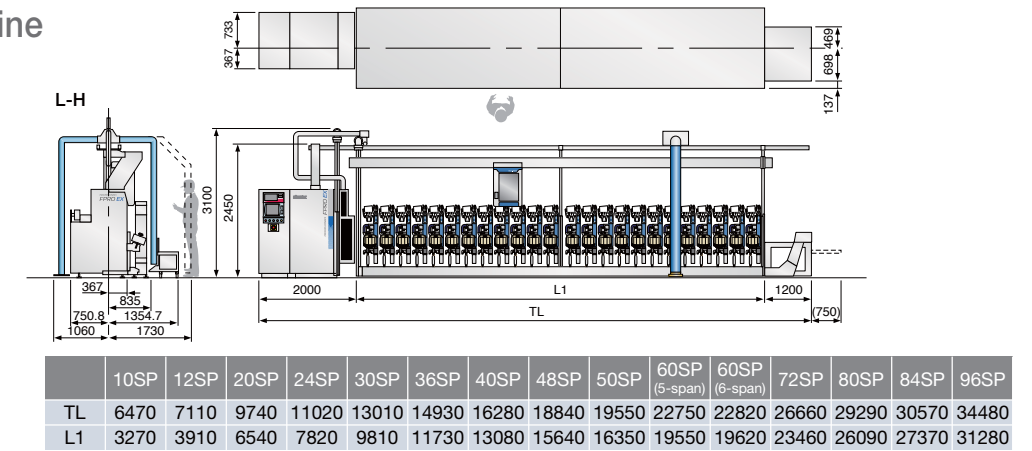
Decrease the number of winds and jump the ribbons. → NO RIBBONS!



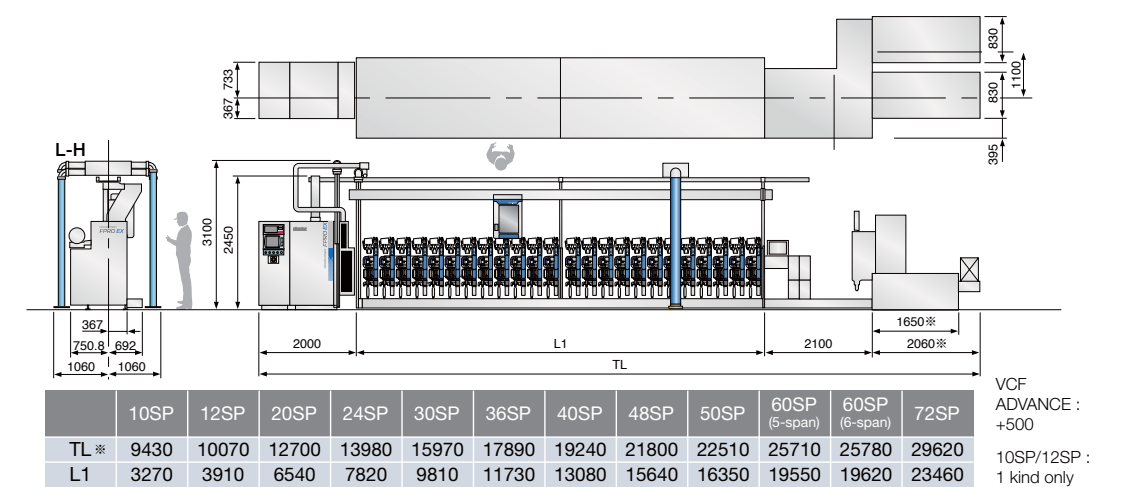
(※) Number of winds which create ribbon

# Dimensions of Machine

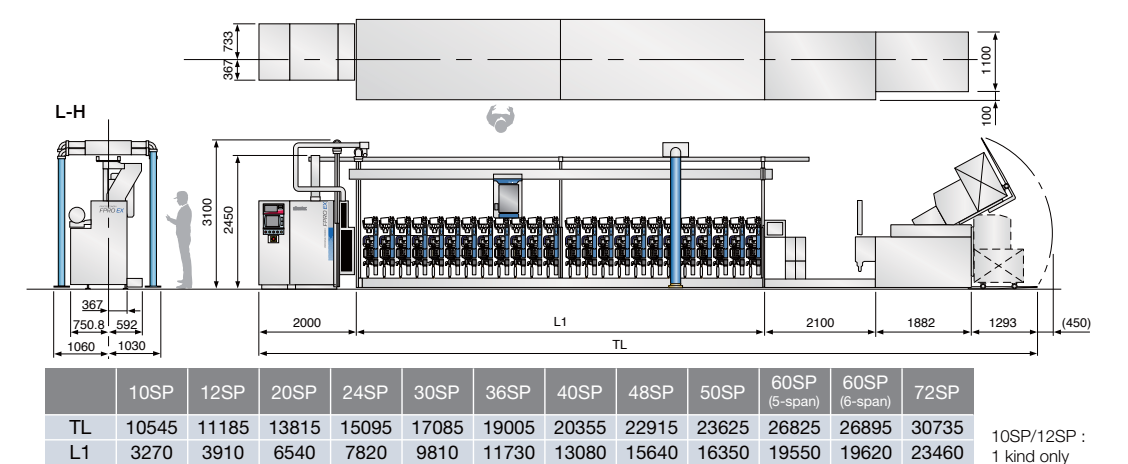
## Straight Magazine



## VCF VCF ADVANCE



## Bobbin-tray



## Link Coner

