





## 並**問互業股份有限公司** HCI CONVERTING EQUIPMENT CO., LTD.

**40755** 台中市台中工業區七路26號 No. 26, 7th Road, Taichung Industrial Park, Taichung 407, Taiwan **Tel:** 886-4-2359-0632 **Fax:** 886-4-2359-0710 **Email:** info@hci-tw.com.tw



## The Practical Solution to Your Converting Needs

www.hci.cc



## **Symbol of Dependable Quality**

The Practical Solution to Your Converting Needs



Established in 1982, HCI is a specialist in the design and manufacture of a full range of Roll-to-Roll and Roll-to-Sheet converting equipment for flexible packaging and optoelectronics industry. From single machine such as, Slitting Machine, Rewinding Machine, Laminating Machine, Bag Making Machine to whole plant equipment, HCI always provides customers with the most practical solution with competitive price.

Based on 35 years machinery technology and perfect after-sales service, HCI serves customers worldwide with excellent reputation. Each HCI machine is subject to rigorous quality inspection and performance tests before shipment to ensure the best possible performance. HCI is the symbol of dependable quality.







- More than 3.500 units of slitter/rewinders installed worldwide.
- Efficient after-sales service team with thousands spare parts stock can provide rapid respond to customer's maintenance requirements.
- Full range of products line can provides turn-key solution of lamination, inspection, slitting and sheeting process.
- Various options can be combined to create a machine which most fits customer's needs.
- O High quality at competitive price, machine be designed with a practical performance, stable and durable quality.
  - Set up well appointed parts division with machine tool including CNC Lathes, Milling machine, etc. to manufacture machined parts, holding the core technology.
- With professional R&D team, integrated 3D mechanism design with control system for customized project.



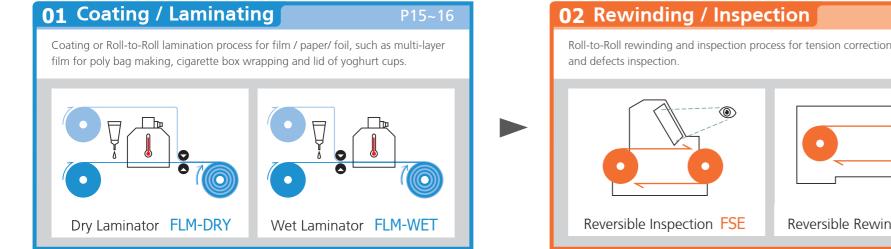


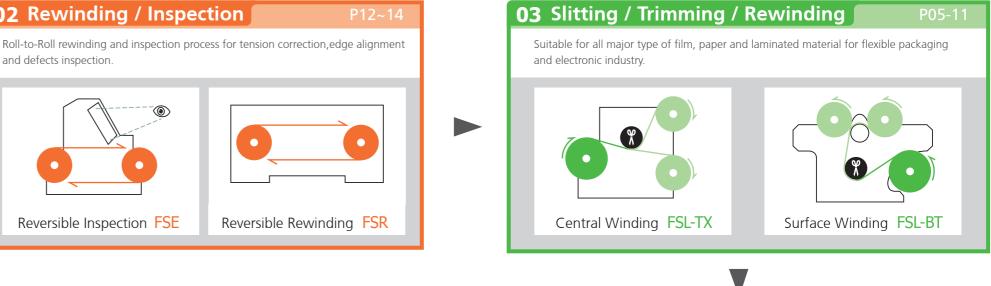
## **HCI Advantages and Competitiveness**

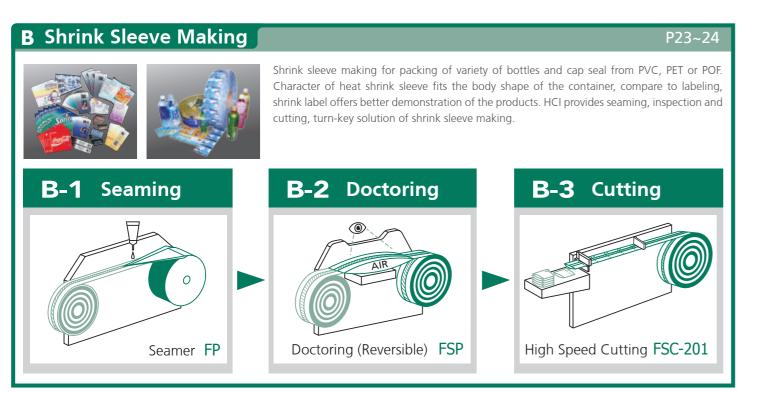


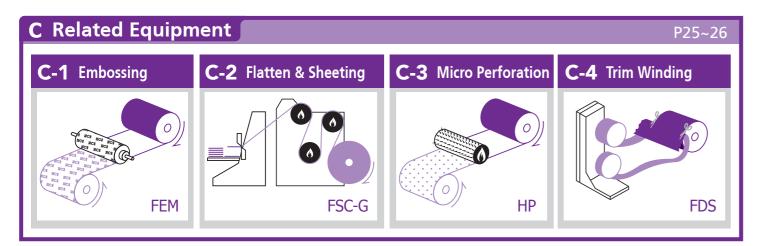


## **HCI** HCI CONVERTING EQUIPMENT CO., LTD.



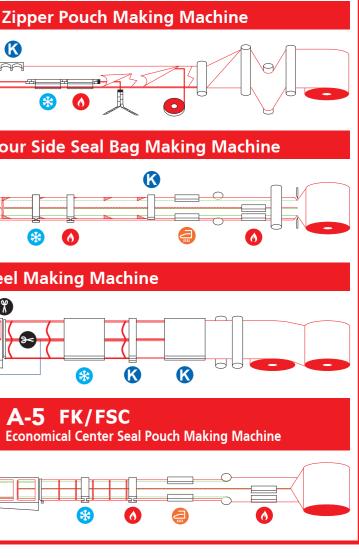






## **A** Pouch Machine for Flexible Packaging Suitable for pouch making from heat-sealable multi-layer film for food packaging, electronic industry and medical industry. All pouch making process can be completed in one machine, including material forming, zipper attaching, sealing, punching and cutting operations. FTSC-V Three Side Seal / Stand Up / Zipper Pouch Making Machine Ŵ 🛞 🚷 A-2 FKSC-V Center Seal / Side Gusset / Four Side Seal Bag Making Machine -3 FSC-V603-2 Sterilization Pouch / Reel Making Machine Ŵ A-4 FSC-303-1 Economical Center Folding Zipper Pouch Making Machine

P17~22



Main Products 04

## **STRENGTHS**

Roll-to-Roll slitter/rewinders is one of HCI's major products, to be used in flexible packaging, paper, label stock and optical thin films industry. More than 3,500 units sold worldwide since established. Based on the design and manufacturing experience, HCI developed a series of slitting machine with different functional options and flexible web path availability. From the unwinder type, cutters, tension controller to differential ring width are all available for customer to build up a slitter which most meets his requirement.

## **FSL-TX**

#### 800mm Rewind OD Slitter Rewinder



800 Rewind Slitter Rewinder has been purposely designed for large rewinding OD requirement, for slitting product OD as large as 800mm and line speed up to 400m/min. Solid shaft-less unwind stand design for roll weights over 1 ton; shortest web path design, all cutter set ups can be completed at the front of the machine. With all new rewinding shaft technology, it is suitable for slitting and rewinding of all kind of film roll of uneven thickness.

FSL-TX	1300	1600	
Mechanical speed (m/min)	400		
Unwind web width (mm) 320-1300 620-1			
Unwind inner diameter (mm) 76 / 3" or (152/6" Optinal		52/6" Optinal)	
Max. unwind diameter (mm)	1000		
Guider movement (mm) +/- 75		75	
Min. slit width (mm) 50		0	
Max. rewind diameter (mm)	800		

Device for Web Alignment · CCD photocell for printing line and edge. • Lateral movement up to +/- 75 mm.

Unwind Web Guiding

#### **Unwind Tension Control**

- Pneumatically controlled disc brake provides
- highly accurate web tension control.
- · Loadcell provides feedback of web tension. · Magnetic powder brake or motor driven unwind are available

## **Unwind Side**



#### PLC & HMI Control System

· Color touch screen with graphical user interface.

- Rewinding tension control mode : Torque / Speed / Torque+Speed.
- · Machine auto stop by achieving pre-set rewind OD or length.
- Alarm / auto stop setting for master roll running out or web broken. • Rewinding shaft reverse winding function.
- · Memory for parameter setting recipes.

#### Other Humanization Design

- · Pneumatic rewinding lay-on roller pressure control system.
- · Laser beam core positioning.
- · Finished roll pusher.
- Turret type unloading tree.

# clamping function.

## Flexibility and Modularity

- Capable of adding inspection / splice table
- Capable of adding stroboscope

#### Shaftless Unwind Stand

- Left/right unwinding frame can move together or separately and with pneumatic
- With hydraulic system lifting from floor level to working position, fixing height type also available.
- Additional remote controller on unwind side for major setting.

### Dual Slitting Knife System

- Equipped with razor groove blade and shear knife for interchange.
- Vacuum trim removal system, simple to operate and the suction is sufficient to pull a broken crap trim.
- Upgraded slitting air knives system (option), equipped with interchangeable pneumatic upper circular knives holder and razor blade holder; matched with segment type of multiple grooved bottom knife blocks which fixed by the inflation shafts fixing system.

#### Main Drive & Rewind Tension Control

- Three individual motors control the main drive, upper and lower rewind shafts separately.
- Rewind tension auto control by differential rings with programing calculation system, keeps the tension stable at varies speed and product OD.

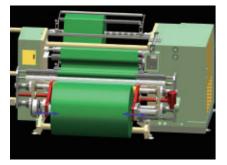
# **SLITTING SERIES**



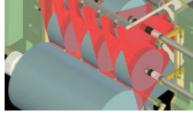


- The most popular model, designed for slitting all types of flexible packaging films, optical film and paper. The HCI FSL-T is a universal Slitter Rewinder on the market.
- Unwinding and rewinding on the different side, with comfortable operation space.
- Three motors driving system, rewinding direction changeable.
- Both unwind and rewind tension auto control, detect the reel OD and adjust the tension output automatically.
- Shaftless unwind stand with pneumatic clamping, quick system for uploading by one operator.
- Web guiding device detects printing line or edge to ensure web alignment.
- Dual slitting system: razor in groove roller & shear knives. Safety cover for slitting zone.

- Vacuum trim removal system pulling the scrap trim properly at 300m/min line speed.
- Standard side-pressure type differential rings suitable for mid-high web tension required, axial-pressure ball type differential rings are available for low-mid web tension required. (option)
- Four sets of section type pneumatic rewind lay-on roller touch the each slit rolls properly.
- PLC with HMI control system, touch screen for parameter setting including:
- Alarm / auto stop setting for master roll running out or web broken.
- Machine auto stop by achieving pre-set rewind OD or length.
- Tension setting simulation.
- Memory for parameter setting recipes.
- Various options such as turret type unloading tree, laser beam core positioning or CE conformity are available.



Shaftless & pneumatic-chuck unwind stand



Laser core positioning



Dialogue parameter setting environment

	FSL-T	FSL-KA	FSL-KT
Unwind web width (mm)	Imin) 300   r (mm) 76 / 3" or (152 / 6" Optional)   r (mm) 1000		1000, 1300, 1600, 1800, 2000
Mechanical speed (m/min)			
Unwind inner diameter (mm)			
Max. unwind diameter (mm)			800
Guider movement (mm)			
Min. slit width (mm)	50		
Max. rewind diameter (mm)	600	600 500	

# **FSL-KA**





- Unwinding and rewinding on the same side, easy accessibility to setting operations by its compact design.
- Four motors driving system, shortest web path design for tension sensitive film job. Shaftless & pneumatic-chuck unwind stand. The left and right unwind arms are
- independently driven by motors, new design for correcting bad edge master roll. Lower knives shaft is designed by cantilever type, no need to remove whole knife
- shaft for changing knives.

FSL-KT **INTEGRATION TYPE** 

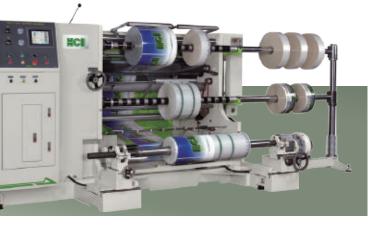




- Hybrid model which combine with the advantages of FSL-T & FSL-K model, most economical way upgrading to automated slitting machine.
- Three motors driving with PLC control system.
- Movable unwind stand can be adjusted at one end for film thickness uneven issue

07

- Razor groove by segment block design, can be installed together with lower shear knife for quick change.
- Pneumatic control lay-on roller, large OD with counterweight cylinder system to have the best touching pressure for different material.
- PLC with HMI control panel to provide accurate and stable tension.
- Color touch screen with graphical user interface. Memory for parameter setting recipes including film thickness, initial OD and unwind / rewind tension, etc.



- Lift-out type unwind air shaft, easy for master roll uploading.
- Equipped with rewind differential ring for film thickness issue.
- Cantilevered rewinding shafts with products discharging tree to increase
- production efficiency.
- Equipped with onboard trim winder.

## **LAMINATING SERIES**



#### Application

Suitable for laminating all types of paper, film, and aluminum foil, such as, cigarette box wrapping, lunch and cake boxes, etc.

The major difference from dry lamination is wet lamination has the 1<sup>st</sup> web laminates to the 2<sup>nd</sup> web right after adhesive coated and passing through the dryer together.

- The motor speed and tension are synchronized in motion which improves laminating quality and stability.
- Steel coating roller incorporated with pressurized rubber roller assures extremely uniform coating thickness and surface smoothness.
- Glue tank with pneumatic ascend/ descend device.
- Four zones and straight dryer provide superior drying performance. All the aluminum rollers in the dryer are driven by chain preventing from material scraped.
- Equipped with PID temperature controllers and waste gas exhausted disposal system. Equipped pivot frame web guiding system providing the most accurate control of product edge alignment.
- Surface winding structure keeps the proper tension to laminated products without excess adhesive.
- With PLC & HMI control system, the operation parameters such as unwind tension, rewind tension, temperature, speed are set digitally. Machine auto stop functions on material running out or break. All values setting and displaying are clear for ease of operation.

Patent roll width (m/m)	1000, 1200	
Mechanical speed (m/min)	150	
	Paper - 1150 mm	
Max. patent roll diameter (m/m)	Al. foil - 600 mm	
Max. adhesive coater laminating roll diameter (m/m)	1000	
Coating method	Rubber roller	

#### Application

The FLM Dry Laminating Machine is specially designed for roll laminating operations of flexible packaging materials such as BOPP, CPP, PET, PE, Nylon, Aluminum Foil, and a variety of multi-layer films as well as performing surface treatment

FLM-DRY-P	Thermal oil heating system
FLM-DRY-H	Electric heating system
FLM-DRY-S	Gas heating system
FLM-DRY-S-2	Gas heating system + double sided coating

- Tension problems during the laminating process are eliminated by use of the micro location offset via dancing roller control systems, which allow for foil (6 micron) to laminate with other various films. It provides the most stable tension even the material has passed through the dryer and been affected by the temperature.
- The synchronized motion of the laminating and gluing devices is of a non-shaft design which fully eliminates accumulated tolerance and improve the ease of movement of both semi- and fully-completed products during operation.
- Master roll and laminated roll auto exchanging is achieved by motorized turret rotation mechanism, improve the lamination and continuous production efficiency.
- Gravure coating roller incorporated with reciprocating doctor blade assures extremely uniform coating thickness and surface smoothness.
- Coating section also equipped with LCD touch screen. It is convenient for machine pre-run settings such as glue adjustment; hot melt temperature setting, doctor blade movement and gravure coating roller cleaning.
- Different options of drying: Electric heating or Thermal oil or Gas heating or Electric + Gas (Hybrid) system.
- Customized dryer upon request, such as the 5th (additional) drying section or double layer dryer, also can have extra coating section for double-sided or double-layer coating.





Patent roll width (m/m)	1000, 1300	
Mechanical speed (m/min)	150	
Max. patent roll diameter (m/m)	600	
Max. adhesive coater laminating roll diameter (m/m)	800	
Coating method	Gravure mesh rotary type	

## **STRENGTHS**

The bag making process is concerned with several of technology to produce bags from roll form material, which including continuously feeding web tension control, intermittent feeding web tension control, forming mechanism, add-on equipment, temperature and pressure of longitudinal / transverse sealing and cooling section, cutting length control and conveyor system. More than 1,000 units sold worldwide since established. Based on the design and manufacturing experience, HCI has excellent design and integration ability. HCI's pouch machine with the benefits of accurate products dimension, high sealing strength, guick changeover, minimize the waste on re-start operation, high speed production and durable machine structure.

## FTSC-V

## Servo In Line Three Side Seal Bag/Stand-up Pouch/ Zipper Pouch/Four Side Seal Bag Making Machine

Suitable for sealable co-extrusion films, multi-layer films such as laminates of Polyester, BOPP, and CPP... This machine is ideal for the production of 3-side sealing bags, stand-up pouches, bottom gusseted stand-up pouches, zipper bags, combined stand-up/zipper pouches, four side seal bag...

	FTSC-V500-3	FTSC-V600-3
Unwind width (m/m)	300-1000 400-1200	
Mechanical speed (bags/min)	200 180	
Max. unwind diameter (mm)	600	
Length of product (mm)	30-500	
Width of product (mm)	75-500 75-600	
Feeding speed (m/min)	30	

#### Main Structures

- Outer transmission mechanism: Compared with inner transmission mechanism, the structures of outer transmission mechanism is much simple and ease for maintenance, and gives about 30% more productivity than conventional bag making machines.
- Brand-new design unwinder: material feeding roller is changed to horizontal direction to make the web more stable; accompany with linear position sensor control system, the dance roller keeps the feeding speed and tension constantly, auto raising during web splicing and "immediately stop" when material broken.
- Main drive servo motor: The operator can change the feeding and sealing time for each material independently. Sealing temperature adjustment unnecessary while machine speed up. This mechanism can help to reduce the waste of material greatly.
- Feeding servo motor\*2: The pouch length is accurately controlled by servo motor includes middle pulling stand and rear pulling stand for upgrading production speed.
- Cutter servo motor control system: The cutting speed is variable and the double cut function can eliminates burrs on in-line corner or notch puncher. This function improves the products quality.

#### Zipper/Side Sealing/Bottom Sealing Section

- The latest development of zipper pouch sealer and side sealer auto descending device (Patent No.M355902) which can prevent the material been overheated or broken when machine stop
- HCl zipper guiding and cooling plate (Patent No.178721): This plate can steady the sealing position of zipper and the cooling circulation system can prevent the zipper pouch been overheated
- Ultrasonic sealing device: it can weld the zipper rib in advance before entering the bottom sealer. The bottom sealed position will be flatted and perfected without leakage problem
- The new skip-seal structure adopts the pneumatic control stopper to block the heat-sealing bar to descend. The structure is simple and durable, and can also be used for the zipper sealing depth control to avoid the sealing area broken.
- Each bottom sealing unit can replace embossing plate with silicon plate; the operator can change the sealing arrangement for actual demand.
- Microprocessor PID temperature controllers work with SSR (solid state relay). The system can provide the most accurate and fastest heating performance.

#### **Cutter Structure and Safety Protection**

- Varying Cutter Structure reduces unnecessary contacts between upper and lower cutters while enhancing cutter lifetime and restraining operational noise. (Patent No M355904)
- Newest cutter unit with easy adjustment and durable structure. The cutter unit can adjust the position from single side or whole unit moves front and rear.
- · Upon request, several extra safety devices are available movable protecting cover for heat sealing section, safety light curtain, cutter cover and interlock switch.



- obviate the malfunction immediately. Three pouch making control modes:
- \*Speed Mode Sealing time varies with cutting speed \*Sealing Time Mode - Cutting speed varies with sealing time

#### Optional Accessories

- defects by pausing cutting until the joint passes the cutter.
- notch etc. All size are upon request.

Capable of Producing Various Type Bags
--

• Three side sealed bags\*2: Can produce 2 lanes of 3-side sealed bags and products length can reach to 1200mm(Max.) by its skip-seal function.

Stand-up + Zipper \* 2: Can produce 2 lanes of stand-up pouch or zipper pouch or stand-up with zipper pouch.

· Folded Bottom Gusset Pouch \* 1: Equipped with the gusset device on main machine with additional dancer roller, gusset depth from 20~70MM, stable forming with fast bag making speed.

• Four-Side-Sealed bags \* 1: Can produce it by using 2 reels of bottom insertion.

· Shaped pouch, spout pouch or micro-perforated pouch making function are upon request.

#### HMI Control System

• Color touch screen with simple figure display for setting and easy operation. Intuitional malfunction detects system: monitor items include motors, inventors, control box communications, punchers, sensors, sealing temperatures etc... and the abnormal position will display on LCD directly. It is very convenient for operators to

\*Extension Sealing Mode - Speed varies with heating extended time, suitable for thicker film

Acceleration will be accelerated to the pre-set speed by 2 stages during start-up, avoiding one-time acceleration to stretch or displace the web and improve the stability of bag making.

• Temperature upper and lower limit alarm: the operator can alter the range of limit and auto stop function and the sealing temperature will vary with machine speed and the increasing rate can be changed.

· Operation parameters could be saved in system such as cutting speed, pieces, length, temperatures etc. and those parameters will be saved automatically when power failure happened.

· Secondary unwinder and web registration device for produce bags from 2 different reels.

• The splice auto-detection function automatically detects the joint of the web, gusset, and zipper, and prevents

• Web guiding device on middle of machine to guide the web after forming / sealing and before trimming, can increase the bag guality and reduce the waste and operation adjustment.

· Various punching device available, such as round hole, butterfly, Mexican hat hanging slot and handle puncher,

More Information

# **BAG MAKING SERIES**

## FSC-303-1



**Economical Center Folding** Zipper Bag Making Machine

## **FK/FSC-350**









- Three-step sealer design : 2 upper and lower sealing sections, 1 upper sealing section and 1 water cooling section; producing an airtight seal. Especially for poly bags which thick and hard to seal.
- Bottom sealer auto ascending device which can prevent the material been overheated
- or broken when machine stopped. Equipped with notch puncher and hanging slot puncher each one set.
- Micro Computer Control System : Auto counting, accumulative recording, auto-stop function for photocell ineffective, skip seal, etc.

HEF WE	1 .	E	P	
	17		1	2
		0		N
		S.	//	
Designed	for produ	cing light	duty pouc	hes, by its



- implified structure and shortest web path, most suitable for thin laminated film, co-extrusion film or heat-sealable BOPP material.
- With different options can produce various type of bags such as center-sealed bag, center-sealed with gusset bag, four-side-sealed bag, two-side-sealed bag, three-side-sealed bags.
- Horizontal unwind stand and 3" swing-out type air shaft with web guiding device (option).



operation.
Equipped zipper feeding, sealing and cooling device, with HCI zipper
guiding and cooling plate to improve the stability of the sealing position of
zipper and the cooling circulation system can prevent the zipper pouch

Designed for producing single lane of zipper bag, quick change overtime,

Equipped simplified unwind folding device, can be upgraded to horizontal

The AC motor driven unwind with dancing roller unit for auto speed varied

and assures that the most stable web feeding even under high speed

minimum waste; it's the best solution for short run order.

unwinder

been overheated.

	FSC-303-1	FK/FSC-350
Material width (mm)	160-500	60-720
Mechanical speed (bags/min)	30-	130
Material diameter (mm)	500	450
Bag length (mm)	50-250	50-400
Bag width (mm)	80-250 30-350	





Equipped with gusset and forming device, each one set of center sealing, bottom sealing and cooling section, quick changeover.

Bottom sealer auto ascending device which can prevent the material been overheated or broken when machine stopped.

With the use of optional folding by unwind stand gusseting device or a second add on unwind stand, three side seal bags can be easily produced, diversifying your production capabilities. Microcomputer control system with touch screen for operation parameter input including auto counting, accumulative recording, auto-stop function for photocell ineffective, skip-seal, etc.

# **SHRINK SLEEVE SERIES**

帶奇

## FP-X250-2

Turret Rewind High Speed Glue Seaming Machine





- Unwind / Rewind Tension Auto Control, equipped with loadcell and dancer roller device, which can eliminate all kinds of tension fluctuation and instantaneous changes caused from auto splicing
- Equipped full automatic forming device, lay flat width above 50mm is free to use forming plate, adjustable sleeve forming table allows manual setting, or upgrade to automatic adjustment system.
- Using laboratory grade precision pump as solvent supply system, keep solvent quantity stable and also sync to the operation speed automatically.
- Turret Rewinder equipped with two rewinding air shafts, when the finished product reached the pre-set length or diameter, the machine will automatically turret and splice, significantly reduce the machine stops and improve production efficiency.
- Seaming & Doctoring Two-In-One: FP-X series seamer can be equipped with ultrasonic lay flat width detection, and solvent detection feature, both can be set alert or automatic shutdown. (option)

## **FP-250**



High Speed Glue Sealing Machine



- Cantilevered unwind 3" air shaft with heavy-duty frame to ensure high speed operation
- Unwind web guiding system provides the accuracy shrink sleeve seaming position, optional rewind oscillation device can oscillate the seaming area on rewindina
- Equipped loadcell type tension controller to assure extremely stable rewinding tension without adjustment when speed and diameter varied.
- Puzzle type forming plates can be combined for producing any width over 50mm sleeves, which greatly bring down the tooling costs in production.

## FK | FK PVC

裔3 Center Sealing/Glue Sealing Machine



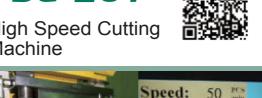
- This machine is designed for the production of poly bags (center sealing) or shrink label (seaming), together with FSC series sealing/cutting machine to complete the production.
- Simplified design, easy to operate and maintain, it's the most economy entry level equipment for producing poly bags or shrink labels
- Swing out type unwind air shaft. Single operator is required to manipulate and load the parent roll, cantilevered paper core or five-claw coreless winder upon request.

- Main drive AC motor provides variable speeds to accommodate a variety of materials. Rewind TQ motor provides the stable winding tension.
- FK series equipped with 2 set of thermal controller for pre-heating and sealing blade, pressed by embossing wheel for continuous sealing to have perfect sealing.
- FK PVC series equipped with glue feeding adj. magnet valve and flow quantity regulator to control the glue and blower for drying the solvent faster also increasing the production speed.
- Various options such as stroboscope, continuous perforation and rewind oscillation. etc. are available

	FP-X250-2	FP-250	FK   FK PVC	FSC-201
Material width (mm)	110-520	110-520	60-520	30-200
Mechanical speed (m/min)	0-400	0-200	0-60 (PVC 0-150)	0-35(30-350 pcs/min)
Max. material diameter (mm)	800	500	450	700
Sleeve width (mm) Max. rewind diameter (mm)	55-250	55-250	25-250	30-200
	600	700	700	300 (optional)
		70 / 0"		

Paper core inner diameter (mm)

76 / 3" or on request





- This cutting machine is suited for perforating and cutting operations for various shrink labels or electronic material and optical film.
- Replaceable unwind shaft is suited for five-claw coreless and 3" paper core.
- The AC motor driven unwind dancing roller unit for auto speed varied and assures that the most stable web feeding even under high speed cutting machine operation.
- The cutting length is accurately controlled by servo motor incorporated with a German made photocell sensor for greatly upgrading the production speed.

- Both Wheel type (on unwind before forming) and Felt type (on machine after forming) glue applicator are equipped for matching different characters of shrink film and adhesive. Glue flow adjusting system: The flow of glue is automatically match up with the machine
- speed varies. PLC with HMI control system, operation parameters input via touch screen, unwind /
- rewind tension auto control, auto stop on pre-set length.
- In-line ultrasonic sleeve width measuring device (option) to detect the sleeve width can check the lay-flat width right after seaming process in order to reduce the waste.
- In-line solvent detection device (option) to alert operator for abnormal gluing.

- Equipped with perforating device which can easily adjust the pressure and position.
- Various cutting edge for flat label and special jaw for cap seal are available, together with conveyor can set the accumulation stocking and moving distance.
- Micro Computer Control System with complete operation functions like auto counting, accumulative recording, auto-stop function for photocell ineffective, etc.
- Optional continuous perforation and products rewinding device are available for machine function expanded.