

Angaben zur Maschine

Benennung	Horizontal-Schlauchpackmaschine
Maschinen-Typ	HBL
Maschinen-Nr.	S-0750-HBL-020
Baujahr	2000, Umbau 2006
Empfänger	

Technische Daten

Abmessungen [mm]	Länge	Breite	Höhe
Platzbedarf der Anlage	5447	2005	2140
Gewicht [kg]	2000		
Elektrischer Anschluss	3 x 400 V / 50 Hz		
Pneumatischer Anschluss	4 - 6 bar; 0,03 m ³ /h, 3/8"		
Schlauchanschluss (InnenØ 6mm)	0,5 - 2 bar; 0,09 - 0,15 m ³ /h		
Dauerschalldruckpegel	79 dB (Messvorschrift nach DIN)		
Leistung pro Minute	maximal 170 Packungen (Blister) maximal 25 Packungen (Kassetten)		
Packgut	Blister / Kassetten		
Packungsart	Schlauchbeutel		

Hinweis

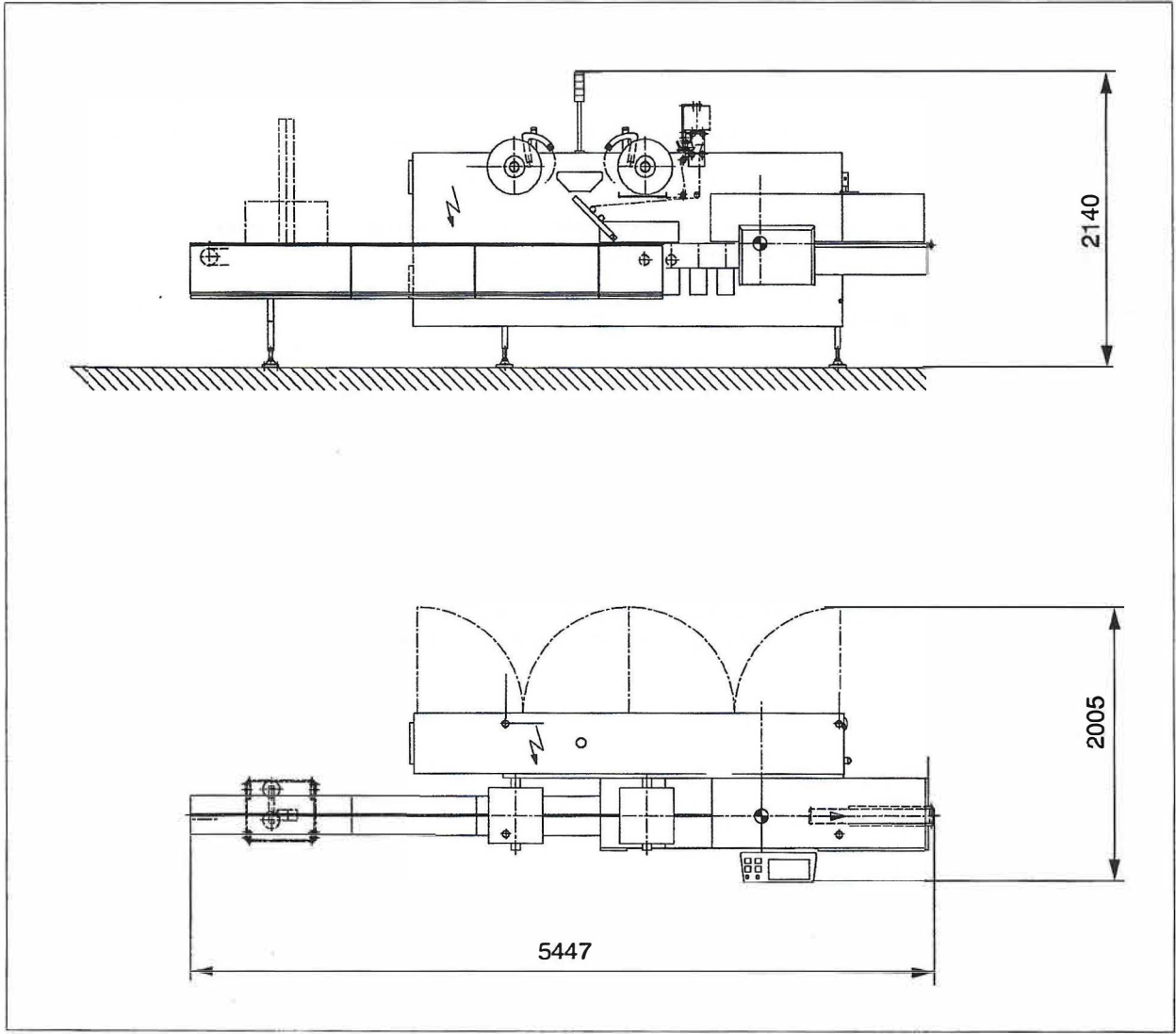
Die Maschine darf nicht im Wohnbereich, in Geschäfts- und Gewerbebereichen sowie in Kleinbetrieben eingesetzt werden.

Sie ist nicht für den Anschluss an die öffentliche Niederspannungs-Stromversorgung vorgesehen.

Die elektromagnetische Verträglichkeit des Produktes erfüllt die Forderungen EN 50081-2, EN 50082-2 für den Industriebereich.

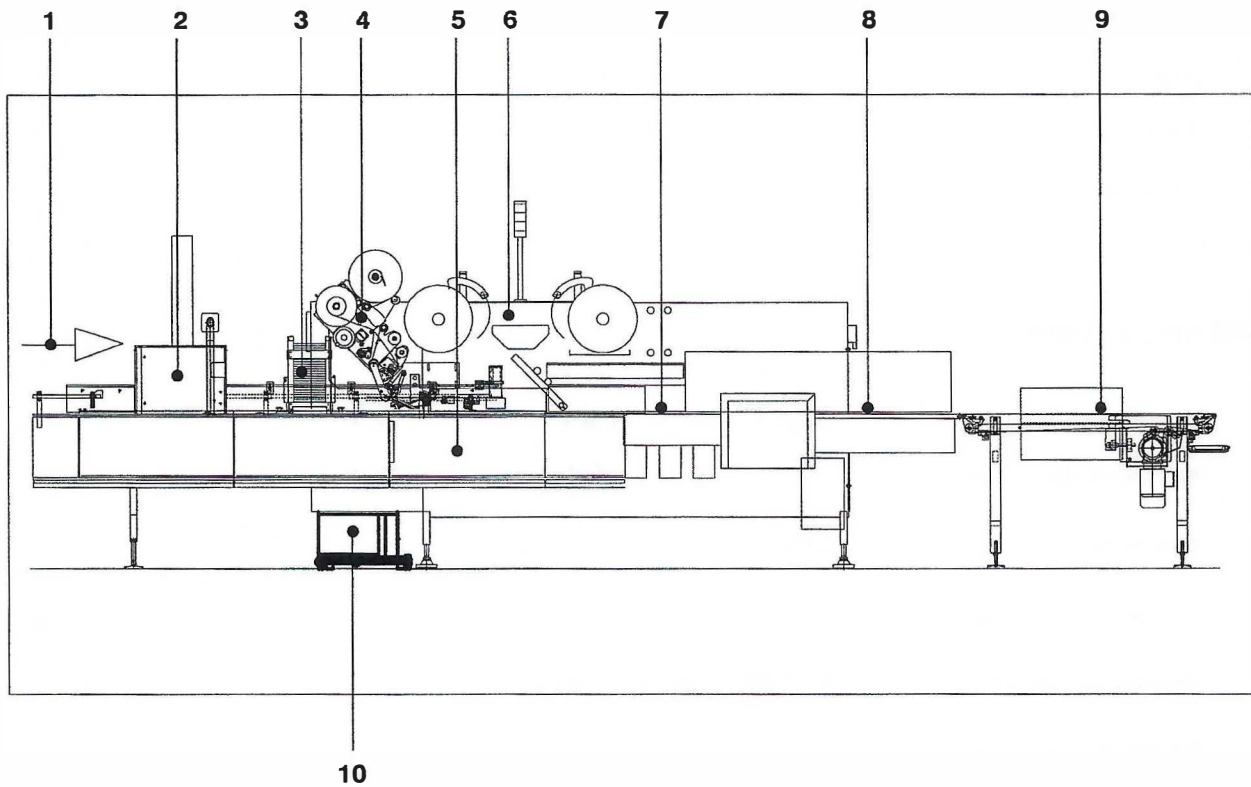
Angaben zur Maschine

Layout



Maschinenbeschreibung

Übersicht



- 1 Packgutfluss
- 2 Blisterschacht
- 3 Kassettenschacht
- 4 RFID Spender PAGO
- 5 Zuführkette
- 6 Packstoffzufuhr
- 7 Packstoff-Faltung und -Siegelung
- 8 Packungsauslauf
- 9 Ausscheideband RFID-Kontrolle
- 10 Industriestaubsauger P.Ries

Maschinenbeschreibung

Funktionseinheiten

Blisterschacht

Die Blister werden von Hand in den Blisterschacht eingefüllt. Der Blisterschacht legt einzelne oder mehrere Blister in die Teilungen der Zuführkette ab.

Kassettenschacht

Die Kassetten werden von Hand in den Kassettenschacht eingefüllt. Der Kassettenschacht schiebt einzelne Kassetten in die Teilungen der Zuführkette.

Zuführkette

Die Zuführkette transportiert die Packgutstapel kontinuierlich bis in die Verpackungsmaschine. Dabei wird die Höhe und die Länge der Packgutstapel geprüft.

Packstoffzufuhr

Die Packstoffrollen werden durch kontinuierlichen Packstoffabzug abgewickelt. Eine abgelaufene Rolle wird automatisch und ohne Produktionsunterbruch mit einer neu aufgesetzten Rolle verbunden.

Packstoff-Faltung und Siegelung

Der Packstoff wird zu einem unten noch offenen Schlauch geformt. Das Packgut wird in den Packstoffschlauch geschoben und mit dem Schlauch transportiert, dabei wird der Schlauch der Länge nach gesiegelt.

Anschließend wird der Packstoffschlauch quer gesiegelt, dabei werden gleichzeitig die fertigen Packungen vom Packstoffschlauch abgetrennt.

Packungsauslauf

Auf dem Auslaufband verlassen die Einzelpackungen die Schlauchpackmaschine. Fehlpackungen werden automatisch ausgeschieden.

Ausscheideband

Auf dem Ausscheideband werden Packungen mit falschen RFID ausgeschieden.

Hinweis

Die einzelnen Funktionseinheiten sind im Kapitel 8 detailliert beschrieben.

Zusatzrüstung

RFID Spender PAGO

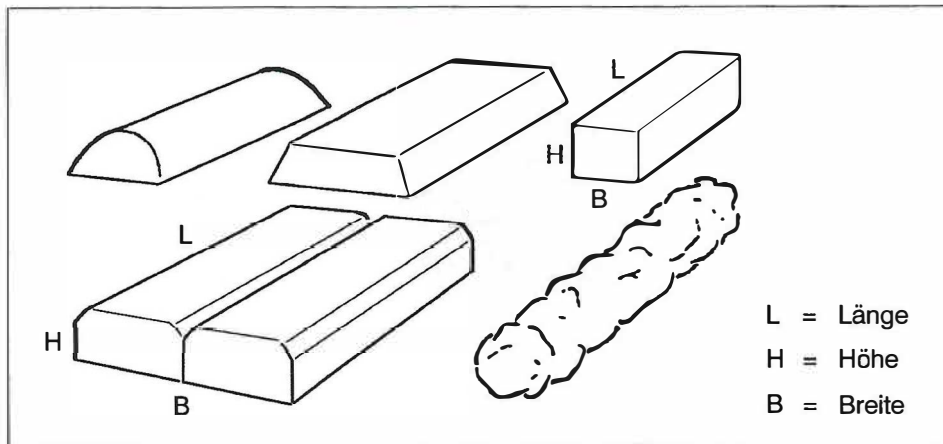
Der Spender bringt RFID-Etiketten auf die Kassetten auf.

Genauere Angaben zum Dispenser siehe separate PAGO-Bedienungsanleitung.

Industriestaubsager P.Ries

Der Industriestaubsager erzeugt das Vakuum für die Luftabsaugung.

Genauere Angaben zum Industriestaubsager siehe Anhang, Kapitel 10.



- In den *Funktionsbedingungen* für die einzelnen Baugruppen wird auf Packgut-Länge, -Breite und -Höhe Bezug genommen.
Oberstehende Skizze zeigt die Begriffe am Packgut.

Wichtig

- Einstell- bzw. Umstellarbeiten sind nur von Fachkräften auszuführen.
Fehleinstellungen und Fehlmontagen können zu folgenschweren Maschinenschäden führen.
- Es dürfen keine Einstell- oder Umstellarbeiten ausgeführt werden, deren Folgen nicht eindeutig klar sind.
- Vor jedem Verstellen einer Baugruppe bzw. eines Bauteils ist die Ausgangsstellung zu markieren bzw. zu notieren.
- Die *Positionen* und Teilebezeichnungen in den nachfolgenden Texten und Illustrationen sind identisch mit denen der separat gelieferten *Umstellvorschrift*.
- In den Abbildungen dieses Kapitels, *Funktionsbeschreibungen / Einstellungen*, sind die Befestigungspunkte der Wechsel- und Umstellteile mit einem ➡ bezeichnet.

Formatwechsel / Programm-Umstellung

Definitionen

Verpackungsmaschinen können für die Verarbeitung mehrerer *Formate* ausgerüstet sein, die durch Bezeichnungen mit Grossbuchstaben unterschieden werden.

z.B.: **Format A**
Format B
Format C

Format, Formatwechsel, Format-Wechselteile/-Einstellteile

- Bei der Stückgüter-Verpackung bedeutet *Format* die Grösse der Einzelstücke oder Einzelstück-Gruppen (Multipacks, Portionen etc.) einschliesslich der Abmessungen des Packstoffes.
- *Formatwechsel* werden notwendig, wenn auf der gleichen Maschine Stückgüter unterschiedlicher Grössen bzw. in anderen Gruppierungen verpackt werden sollen.
- *Format-Wechselteile/-Einstellteile* sind vom *Format* abhängig. Bei einem *Formatwechsel* werden die *Wechselteile* ausgewechselt und die *Einstellteile* neu eingestellt.

Programm, Programm-Teile, Programm-Umstellung

- Das *Programm* dieser Verpackungsmaschine umfasst deren technische Möglichkeiten in bezug auf:
 - Produktzuführung** Zählen, Mischen, Gruppieren, Separieren etc.
 - Packstoff-Verarbeitung** Formen, Falten, Siegeln, Kleben, Schneiden etc.
 - Verpackungsart** Einfach-, Doppeleinschlag, Dreifacheinschlag, Verschlussarten.
 - Zusatz-Ausrüstung** Heiss- oder Kaltträger bzw. Druckwerke, Prospektinleger, Aufreissbandapparat etc.
- *Programm-Teile* sind die vom *Programm* abhängigen oder darauf einwirkenden Funktionsgruppen.
- *Programm-Umstellungen* verursachen oft umfangreiche Umbauarbeiten; sie werden bei *Programm-Änderungen* notwendig.

VisioRead Colour

Maschinentyp	SIG Schlauchbeutel	Nachlieferung	
Maschinenummer	S-750-HBL-020		
Kunde		Land	Schweiz

Systemtyp	VA Win VisioRead Colour	Seriennummer	7015
HW Auswerteeinheit	2.00	Datum	30.07.2004
Kamera 1	JAI CV-M77	Seriennummer	E773156
Kamera 2	JAI CV-M77	Seriennummer	E771267
Objektiv Kamera 1	Computar / 8 mm	Polfilter	nein
Objektiv Kamera 2	Computar / 8 mm	Polfilter	nein
Beleuchtung (oben)		Beleuchtungsgröße	
Vorschaltgerät	Osram AT7-9/24L	Vorschaltgerät-S/N	
Beleuchtung (unten)		Beleuchtungsgröße	
Vorschaltgerät	Osram AT7-9/24L	Vorschaltgerät-S/N	

Softwareversion	1.78	Bediensprache	deutsch
HW Füllkontrolle		Betriebssystem	NT 4.0 SP 6

Netzanbindung	Standalone	TouchControl-Version	
IP-Adresse	192.168.0.226	Subnetzmaske	

Monitor	15"-ELO Touch	Seriennummer	724110157C
VisioKey		Seriennummer	

Version Betriebsanleitung		Sprache Betriebsanleitung	
Dokumentation auf CD-ROM		Validierung	

Bemerkungen			
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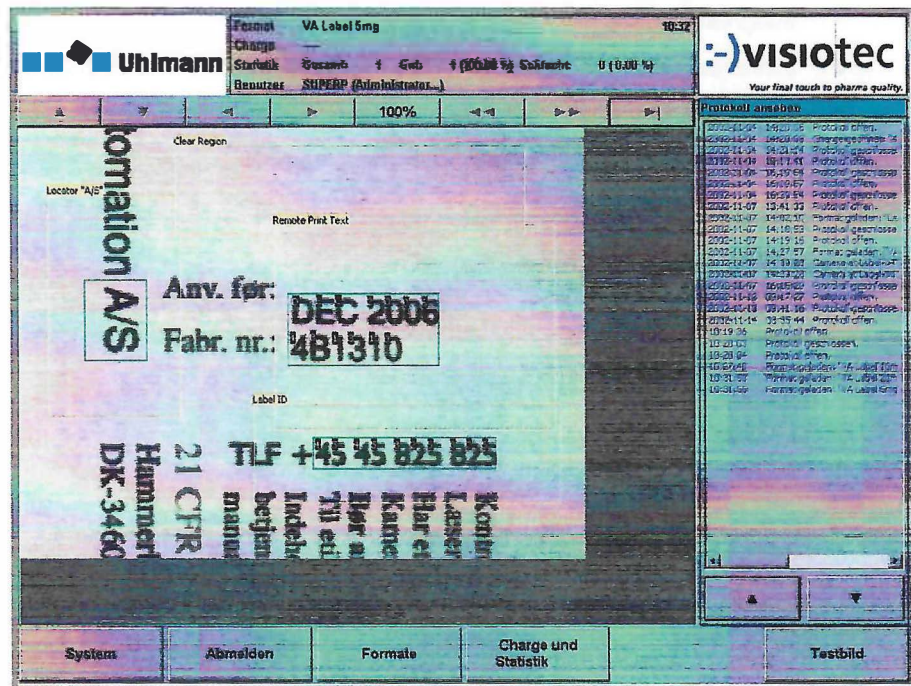
Datum	04.12.2006	Name	V.Bessinger
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Kontrolle von Text, ID (Identifikation), Druck und Montage

Einführung

Das VisioRead System ist ausgelegt für die Online-Kontrolle von Etikettendruck, Etiketten-ID, Platzierung des Etiketts, Produktmontage und vieles mehr.

Ist eine hochauflösende Videokamera auf ein Etikettiergerät oder eine Montagemaschine aufgebaut, kann das VisioRead System sehr schnell erkennen, ob die Etiketten oder montierten Teile korrekt sind oder nicht.



Das von der Kamera erzeugte Bild wird im System digitalisiert. Die verschiedenen Kameramodelle reichen von den standardmäßigen Videokameras zu Farbkameras mit sehr hoher Auflösung. Alle verwendeten Kameras sind vom Typ CCD.

Innerhalb dieses Bilds kann der Benutzer ein breites Spektrum an verschiedenen Kontrollprüfungen definieren. Das VisioRead System kann mühelos mehr als 1000 Produkte in der Minute überprüfen. Das VisioRead System überprüft jedes Etikett oder Produkt und erstellt dabei für jedes Produkt eine Gut/Schlecht Ausgabe.

Leichte Handhabung

Die Benutzerschnittstelle ist so ausgelegt, dass das VisioRead System eine grosse Anzahl verschiedener Produkte/Etiketten prüfen kann. In die Praxis umgesetzt bedeutet dies, dass der Benutzer das Sichtprüfgerät so programmieren oder so "einlernen" kann, dass ein bestimmtes Produkt auf optimale Weise geprüft werden kann.

Das "Programmieren" oder "Einlernen" wird durch verschiedene, leicht zu benutzende Menüs vorgenommen, welche am Touchscreen Farbmonitor angezeigt werden.

Messmerkmale

Für die Textkontrolle wird die solide und bewährte OCR/OCV Technik eingesetzt. Referenz- und Prüfpunkte werden mit verschiedenen Abgleichmuster-Techniken bearbeitet. Platzierungskontrolle und allgemeine Abstandsmessungen werden mit einer sehr hohen Genauigkeit von/bis Referenzpunkt durchgeführt.

2. Descriptions and Specifications.

2.1. Packet Dispenser.

The APA-2000 Series packet dispenser is a PLC (Programmable Logic Control) controlled machine. The dispenser takes packets joined together in a continuous strip and cuts and dispenses the individual packets on demand.

The PLC used is a Controllogix 5550 processor. There is incorporated on the Controllogix platform two-servo control cards that directly control via 0 to 10-volt analog signals, three Ultra 100 servo drives. The first servo controls the indexing of the packet strip to its cut off position. The second servo drives a cam, which actuates the cutter knife to cut the packets from the continuous strip. The third servo drives a lug chain assembly that is attached below the main head of the dispenser. The lug chain takes the cut packet and synchronously feeds it into the lug chain of the Sig wrapper machine. Attached to the shaft of the Sig wrapper's lug chain is a rotary encoder that feeds back into the second servo control card the position and movement of the Sig lug chain. The PLC is connected to a touch screen interface panel via a DH+ network for access to program operating parameters, data displays, and test functions. The dispenser incorporates a reject bucket and mechanism for discarding potentially bad or damaged desiccant packet so as to prevent them from being packaged with the end product.

All of the servos and any electrical actuators are disabled on the dispenser if any of the following takes place:

- The index drive guard door is opened,
- The mechanical access doors are opened,
- The emergency stop switch is depressed (maintained switch),
- The reject bucket is removed,
- The main disconnect is turned off or external power is removed from the machine.

To run the dispenser the index drive guard and mechanical access doors must be closed, the reject bucket secured in place on the machine, and the packet strip fed into the top of the index drive belt assembly. The emergency stop switch needs to be pulled from its latched depressed position and the master start switch needs to be pressed to "power on" the packet dispenser machine. After a brief delay the packet dispenser is ready to be initialized by the operator by pressing the packet feed in button on the touch panel MMI. After pressing the packet feed in button, the index drive belt assembly will drive the packet strip in reverse momentarily to insure the start of the packet strip is above the through beam seal sensor. The packet strip is then feed into the belt of the index drive. Upon detection of the first seal the packet strip is driven an additional distance as determined by the cut offset value which positions the packet strip seal in line with the cutter knife. The cutting position is determined by the position of the packet strip seal (as detected by the seal sensor) added to the offset distance between the sensor and the cutter knife. If the dispenser is set for auto start it will automatically start running if the Sig machine has enabled the dispenser. If the machine is set for manual start then the start button must be pressed on the MMI touch panel. The dispenser is then ready to start if there are no faults that occurred.

The dispenser waits for the MC Start/Stop signal from the Sig wrapper's controller. Homing of the dispenser's lug chain takes place during the initial forward movement of the Sig wrapper's lug chain. During this time the reject gate will be in the open position. During the forward movement of the Sig lug chain the encoder is homed after receiving a lug detect signal from the Sig wrapper's controller. After both the encoder and the dispenser's lug chain have finished their homing operations and the Sig MC Start/Stop signal is on, then the dispenser's lug chain and cutter knife will move synchronously with the Sig wrapper's lug chain. The phase between the two lug chains is set through the MMI touch panel setup table screen. Packets will be cut and dispensed into the lug chain depending on whether the dispenser is set to dispense

packets with the Sig MC signal or with the Sig timing signal as set on the maintenance screen of the MMI touch panel. If the dispenser is set to dispense with the timing signal then packets will only be dispensed when the Sig wrapper requests a packet. Otherwise packets will always be dispensed regardless of the timing signal status. The accelerator pinch roller assembly that is driven by the belt drive servo holds the packet strip taut prior to cutting the packet from the packet strip. When the cutter knife is retracted the belt drive servo indexes the cut packet to the lug chain as well as positions the next packet seal at the cutter knife. A fiber optic packet detection sensor is located at the entrance to the lug chain to insure the delivery of the cut packet into the lug chain before the next packet is cut and delivered validates the transfer of the cut packet into the lug chain. Upon successful detection of a cut packet delivered to the lug chain and the packet strip index is within a set index tolerance compared to the previous index the dispenser is then ready for the next cycle. If during the cycle, a fault with the dispenser and packet strip is detected, the reject gate will open immediately, the dispenser will come to a halt and then signal the Sig wrapper that the dispenser is not ready.

2.2. Splicer / Unwind Station

The splicer / unwind station consists of a roller conveyor capable of holding two boxes of desiccant packet strips. Above and centered between the boxes is a splicer head sealer assembly used to splice the packet strip end in the first box to the start of the packet strip in the second box. To the left of the splicer head is guarded unwind pinch roller assembly and a dancer arm switch used to generate a loop on the packet strip prior to entering the packet dispenser. The purpose of the unwind is to straighten out any creases and folds in the packet strip due to shipment and packaging and deliver a packet strip that is free of any snags or tugs on the strip that would cause index position variance on the packet dispenser. A 16 pin Harting connector and cable which connects to the dispensers electrical enclosure supplies the power and interface signals for the station.

The splicer head is an impulse type heat sealer used to fuse the two packet strips together at the end seals of the packet strips and create a seal that is translucent enough for detection by the through beam seal sensor on the packet dispenser. The ends of the two packet strips are clamped in place on the splicer head platform. A silicone rubber jaw is then clamped on the area to be sealed. Upon pressing the splice pushbutton the splice seal is performed. The quality of the seal is determined by a variable heat intensity as set inside the splicer control cabinet and a variable dwell time as set on the dispenser touch panel. An indication of the splice operation-taking place is via the splice pushbutton being lit.

The packet strip unwind consists of an ac motor driven spring loaded pinch roller assembly. The assembly is protected by a hinged guard cover, which disables the ac drive motor when opened. When the dancer arm is triggered the unwind motor is driven for a dwell time as set on the packet dispensers touch panel to produce a loop on the packet strip prior to exiting the enclosure towards the main dispenser.

The splicer/unwind station is enclosed with access doors for loading and unloading a packet strip box. Plumbing a regulated supply of nitrogen or dry air into the enclosure is useful for extending the life of the exposed packet strip during machine operation.

2.3. Specifications

- Power Supply – 400 VAC, 50 Hz, three-phase w/ground. Line current 15 Amp maximum.
- Environment – The installation place should be indoors, free from direct sunlight, mechanical vibration, ambient temperature 45°F~85°F, free from corrosive gas or dust, and be appropriate for effective desiccant pouch distribution.

3. Designations and functions of main machine components.

3.1. Designations and functions (Main dispenser body, front view)

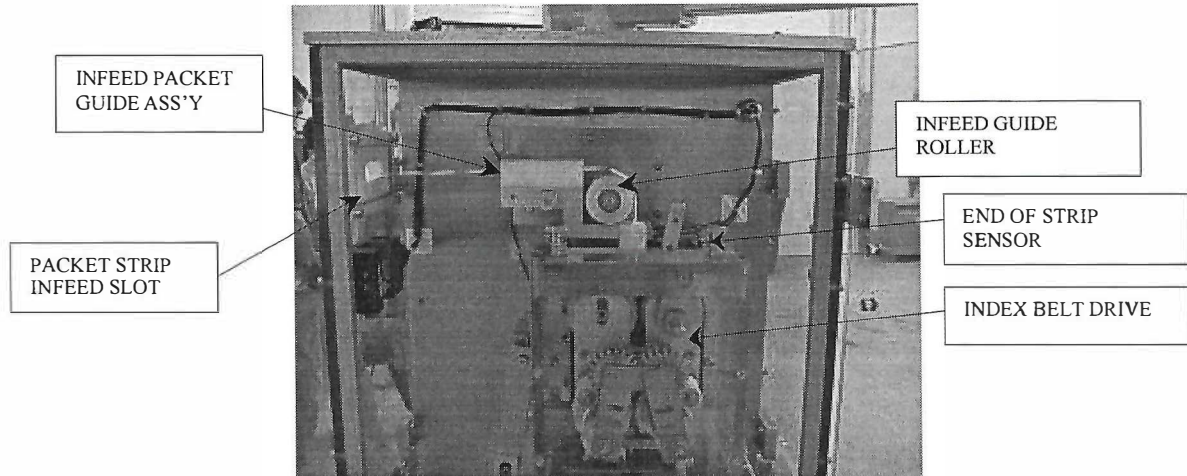


Figure 3.1a (Designations and functions, main dispenser body, front view).

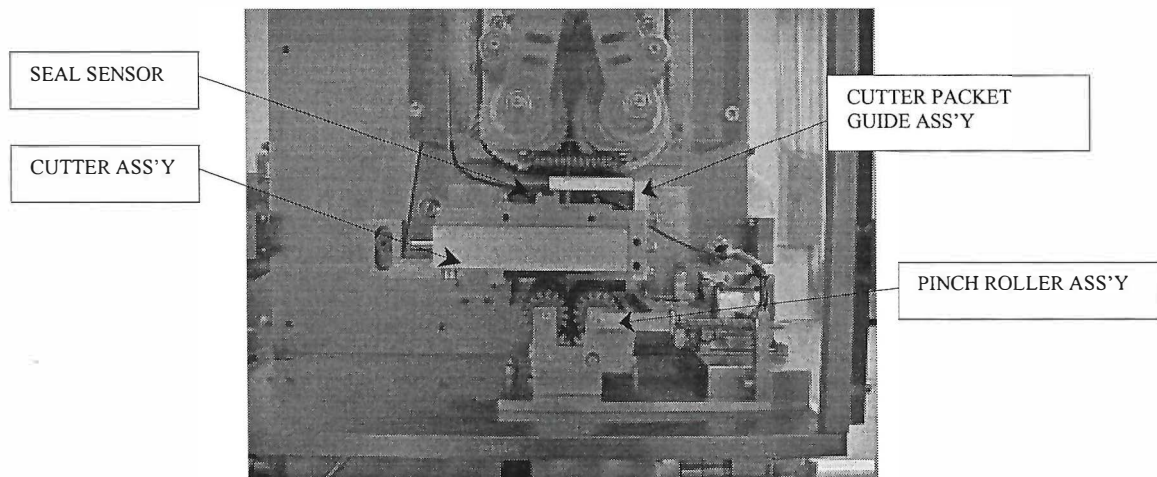


Figure 3.1b (Designations and functions, main dispenser body, front view).

- INFEED PACKET GUIDE ASS'Y – Changeable tooling that guides the packet strip into the index belt drive.
- PACKET STRIP INFEED SLOT – Entrance slot into the dispenser for the packet strip.
- INFEED GUIDE ROLLER – Guides the packet strip into the index belt drive.
- END OF STRIP SENSOR – Thru beam photoelectric sensor used for sensing the presence of the packet strip at the in feed of the belt drive.
- INDEX BELT DRIVE – Servo driven belt assembly that indexes the packet strip seal to the cutter knife.
- SEAL SENSOR – Thru beam photoelectric sensor used for sensing the strip seal for determining the cut location on the packet strip.
- CUTTER ASS'Y – Houses the cutter knife blades for cutting the packet from the packet strip.
- CUTTER PACKET GUIDE ASS'Y – Changeable tooling that guides the packet strip into the cutter knife assembly on the top half and guides the cut packet into the pinch roller assembly with the lower half of the assembly.
- PINCH ROLLER ASS'Y – Set of rollers driven by the index belt drive servo that holds the packet taut that is to

be cut and transfers the packet to the dispenser's lug chain after the packet is cut from the strip.

3.2. Designations and functions (Main body, Lug chain interface).

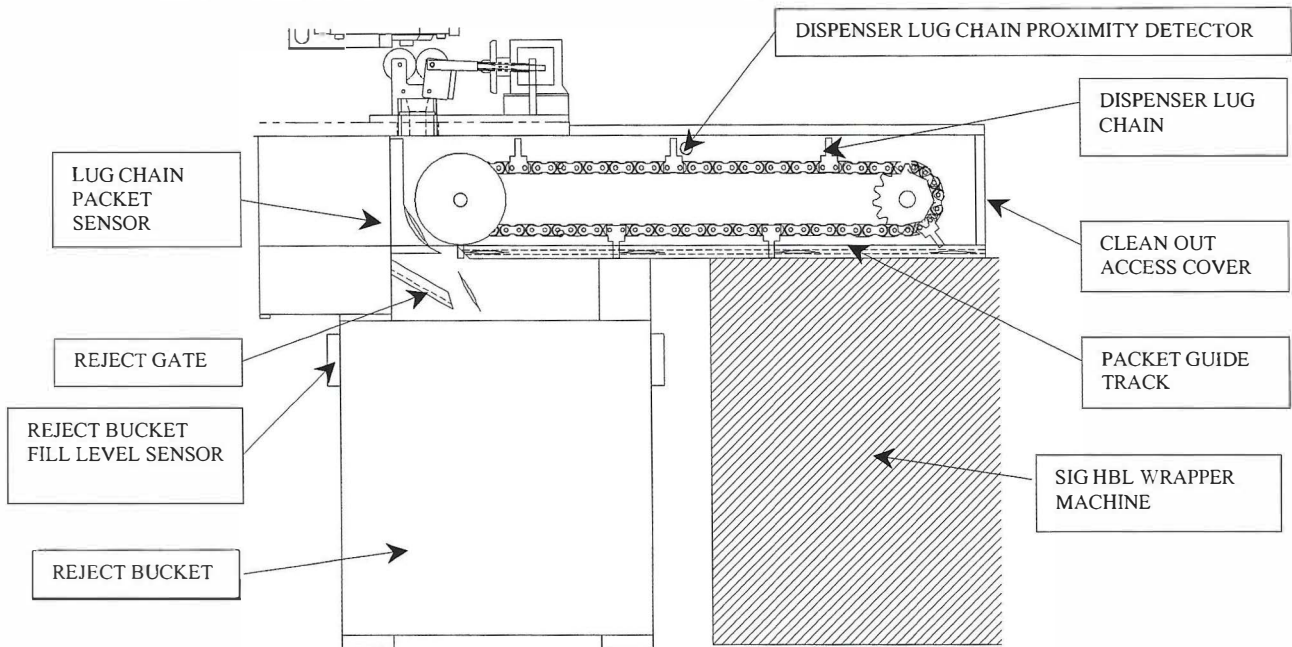


Figure 3.2 (Names and functions of main body, Lug chain interface view)

- LUG CHAIN PACKET SENSOR – Detects the successful delivery of a cut packet from the pinch roller assembly into the dispenser's lug chain.
- REJECT GATE – Gate that opens during fault conditions to automatically remove any potentially bad product.
- REJECT BUCKET FILL LEVEL SENSOR – Used to detect a full reject container.
- REJECT BUCKET – Container used to hold any rejected packets.
- DISPENSER LUG CHAIN PROXIMITY DETECTOR – Sensor used for homing the dispensers lug chain.
- DISPENSER LUG CHAIN – Moves the cut packet synchronously into the SIG HBL wrappers lug chain.
- CLEAN OUT ACCESS COVER – Access cover when removed, used to clean out packets when necessary.
- PACKET GUIDE TRACK – Guides the cut packets in to the SIG HBL wrapper's packet guide.

3.3 Designations and functions (Dispenser Left Side).

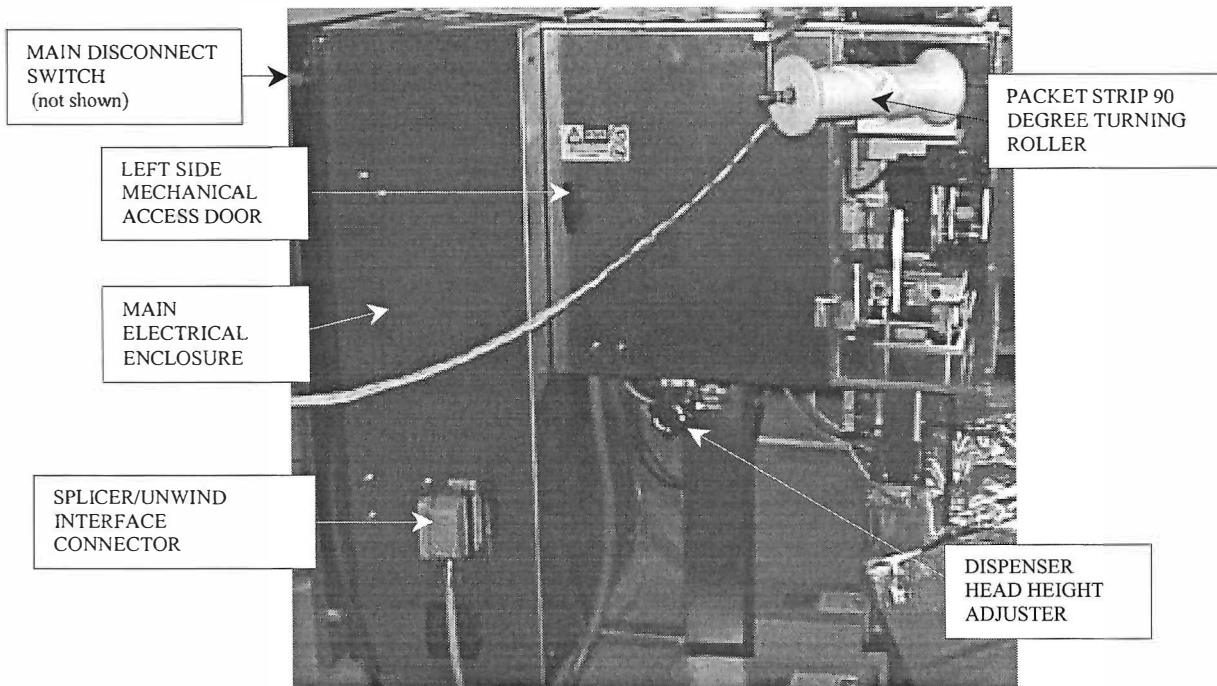


Figure 3.3(A) (Names and functions of dispenser, left side)

- MAIN DISCONNECT SWITCH (not shown) – Disconnect for the main power with lockout/tagout holes, Located on the door of the main electrical enclosure at the rear of the dispenser machine.
- LEFT SIDE MECHANICAL ACCESS DOOR – Provides access to the servo motors, cam, and gear mechanisms for the cutter and belt index assemblies.
- SPLICER/UNWIND INTERFACE CONNECTOR – Electrical interface connector for the splicer/unwind station.
- PACKET STRIP 90 DEGREE TURNING ROLLER – Used for guiding the packet strip from the splicer/unwind station in to the packet dispenser machine when the packet strip flow from the splicer/unwind station is located perpendicular to the dispensed packet flow.
- DISPENSER HEAD HEIGHT ADJUSTER – Adjuster handle and lock pin for adjusting the dispenser height relative to the SIG HBL lug chain in-feed conveyor.

3.4. Designations and functions (Dispenser Right Side & HMI).

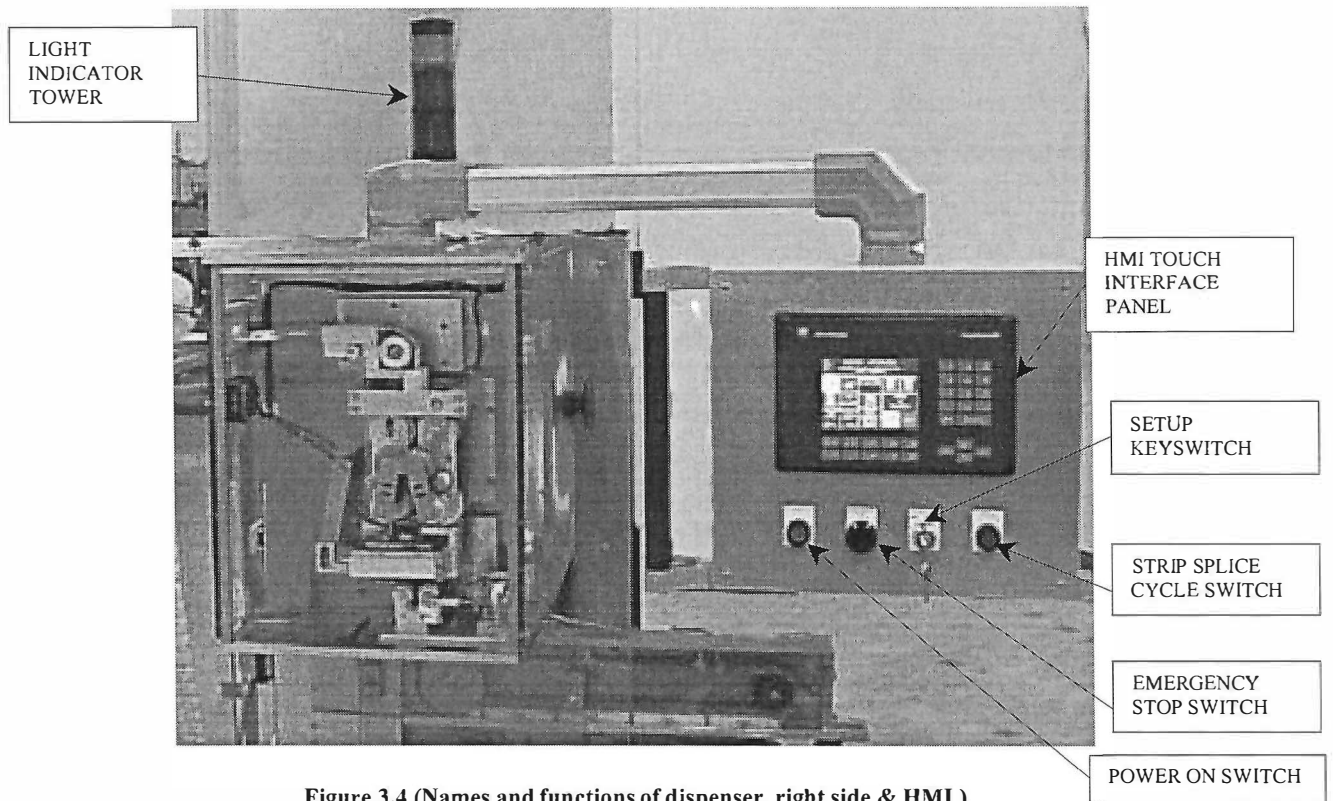


Figure 3.4 (Names and functions of dispenser, right side & HMI)

- **LIGHT INDICATOR TOWER** – Contains three machine status indicator lights. The top green light indicates that the dispenser is either ready to run or is running. The middle blue light indicates that the packet strip product is close to running out (low product). The bottom red light indicates a warning condition if it is flashing and a fault condition if it is on (not flashing).
- **HMI TOUCH INTERFACE PANEL** – Mounted on a pendant arm that can be swung to either side of the machine, the HMI touch interface panel provides operator and maintenance access to the PLC for startup and setup functions and display machine status and fault displays.
- **SETUP KEYSWITCH** – Provides access to the setup and maintenance function screen on the HMI touch interface panel.
- **STRIP SPLICE CYCLE SWITCH** – pressing this switch if the splicer/unwind enclosure doors are closed and the splicer head is clamped will start the strip splice seal cycle. When the switch is pressed the green light on the switch indicates sealing cycle is running and turns off when the cycle is complete.
- **EMERGENCY STOP SWITCH** – When the switch is pushed in the machine will come to an immediate halt, power will be removed from the servo drives, and magnetic actuators. A light on the switch indicates that it is pressed in. To restart the machine the switch must be pulled back out. Emergency stop will also take place if the main or mechanical guards are opened, or if the reject bucket is removed while the machine is running.
- **POWER ON SWITCH** – Pressing this switch if the guards are closed and the emergency switch is not actuated will apply power to the servo drives and enable the magnetic actuators. A green light on the switch indicates that the power to the servo drives is on.

5. Operating procedures

5.1. Startup and operation.

- Check if the electrical cords (Main power and Sig HBL connector, splice/unwind interface connector) are properly connected.
- Turn on the main disconnect switch.
- Thread the packet strip to the APA-2000 dispenser machine. (Refer to section 5.2.1. and 5.2.2.)
- Check the machine status display. If the main guard or the mechanical access guards are open, then the machine status display will indicate that they are open.
- ***** The Safety guard covers are provided with an interlock device, emergency stop will take place if the safety covers are opened. (The operation will be restarted after closing the safety covers and pressing the power on pushbutton.)**
- If the guards are closed, the machine status display will read "POWER ON REQUIRED". Press the POWER ON pushbutton switch.
- The POWER ON switch lamp (green color) is lighted.
- After a momentary delay, if the packet strip is not present the machine status display will read "PACKET STRIP IS NOT PRESENT", refer to how to thread the packet strip. IF the strip is present then the machine status display will read "PACKET FEED IN REQUIRED". Press the PACKET FEED IN button on the touch panel display.
- The packet strip will initially index forward to remove any cut packets from the pinch roller assembly then in reverse to determine the start of the packet strip. Then the packet strip will index forward to search for the first seal. When the first seal is found the machine will index the seal to its cutting position. The machine status display will read "READY TO START".
- If the packet dispenser is set up to automatically start after a packet feed in, then the machine is ready to run with the SIG HBL machine otherwise the start button on the touch panel will need to be pressed.
 - When the HBL machine starts to run the encoder and lug chain are homed, after which the lug chain and cutter cam will move synchronously with the movement of the HBL lug chain.
 - If the dispenser is set up to dispense packets when the HBL MC signal is on then packets will be cut and dispensed in to the lug chain when it is moving.
 - If the dispenser is set up to dispense packets when the HBL TIMING signal is on then packets will be cut and dispensed in to the lug chain when it is moving only when the timing signal is being received. When the timing signal is not being received the machine status display will read "WAITING FOR HBL TIMING SIGNAL".

5.2. How to thread the packet strip on the APA-2000 Dispenser machine.

5.2.1. Threading the unwinder.

(Refer to figure 5.2.1)(For component descriptions refer to section 3.)

- Swing open the unwind guard cover. A safety switch on the cover will prevent the unwind motor from starting.
- Pull the start of the packet strip out of the box and thread through the fold/crease remover section of the unwind as shown below.
- While holding the pinch roller swing arm open feed the start of the packet strip between the pinch rollers.
- Close the unwind guard cover.
- Raise the dancer arm to feed out enough of the packet strip to thread through the dancer arm loop. Route the packet strip through the loop at the end of the dancer arm and then through the exit slot of the enclosure heading towards the 90 degree turning device on the dispenser.

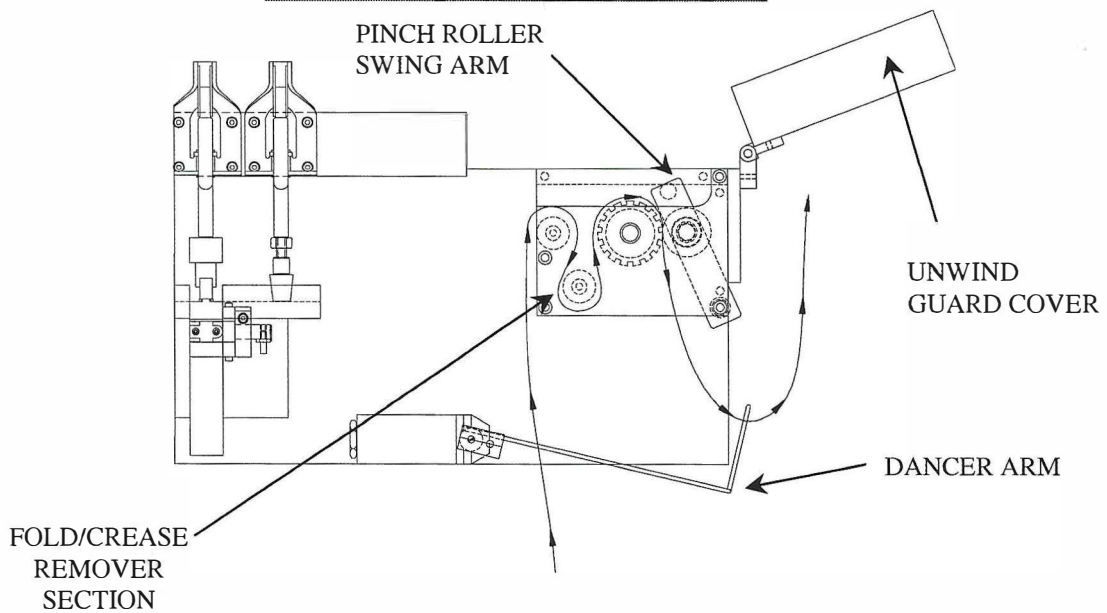
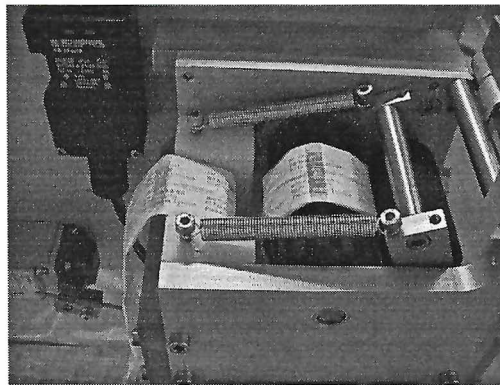


Figure 5.2.1 (Threading the packet strip)

5.2.2. Threading main body of the APA-2000 dispenser machine.

- Open the front hinged main guard door and by turning the handle 180 degrees and swing the door open.
- Take the start of the packet strip from the splicer/unwind station and lay it over the top of the 90 degree turning roller, feeding it around the bottom then in to the guide slot with out twisting the packet strip as shown below in figure 5.2.2a and 5.2.2b.

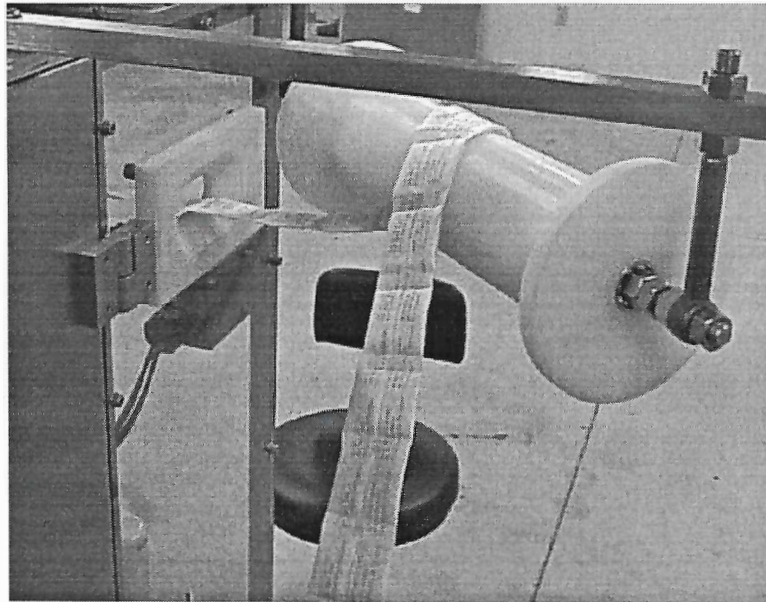


Figure 5.2.2a (Threading the packet strip around the 90 degree turning roller)

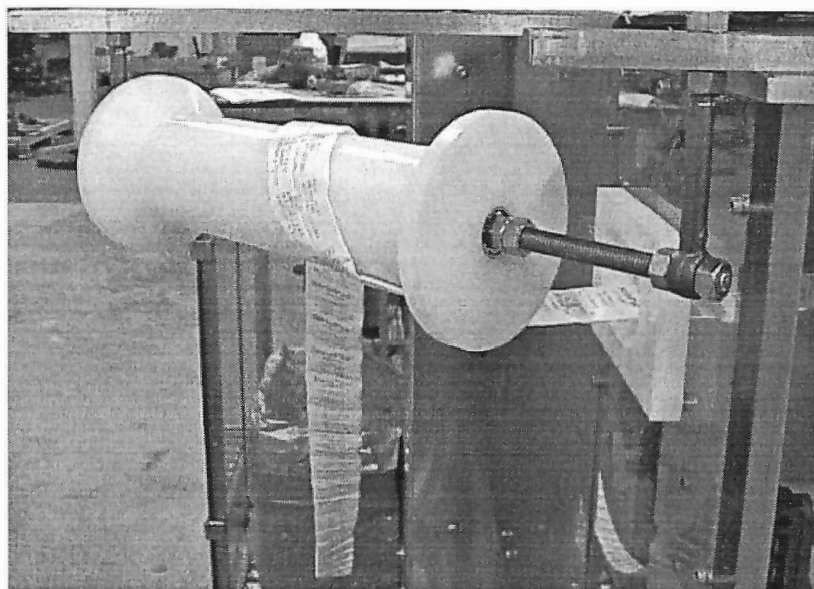


Figure 5.2.2b (Threading the packet strip around the 90 degree turning roller)

5.2.2. (continued) Threading main body of the APA-2000 dispenser machine.

- Insert the packet strip within the channel of the horizontal upper guide, over the top of the guide roller, within the channel of the vertical upper guide and in between the belts of the index belt feed drive. Separate the two belts by pressing on the shaft extension as shown below in figure 5.2.2d and insert the packet strip between the belts.
- Close the main hinged guard door and latch by turning the handle 180 degrees so that it secures the door shut.

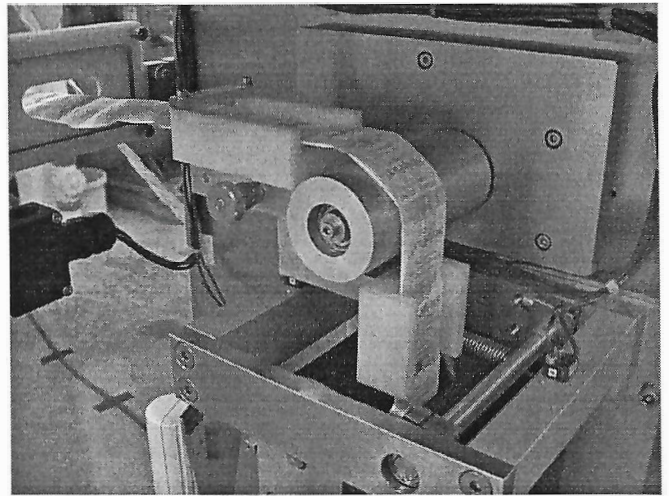


Figure 5.2.2c (Threading the packet strip)

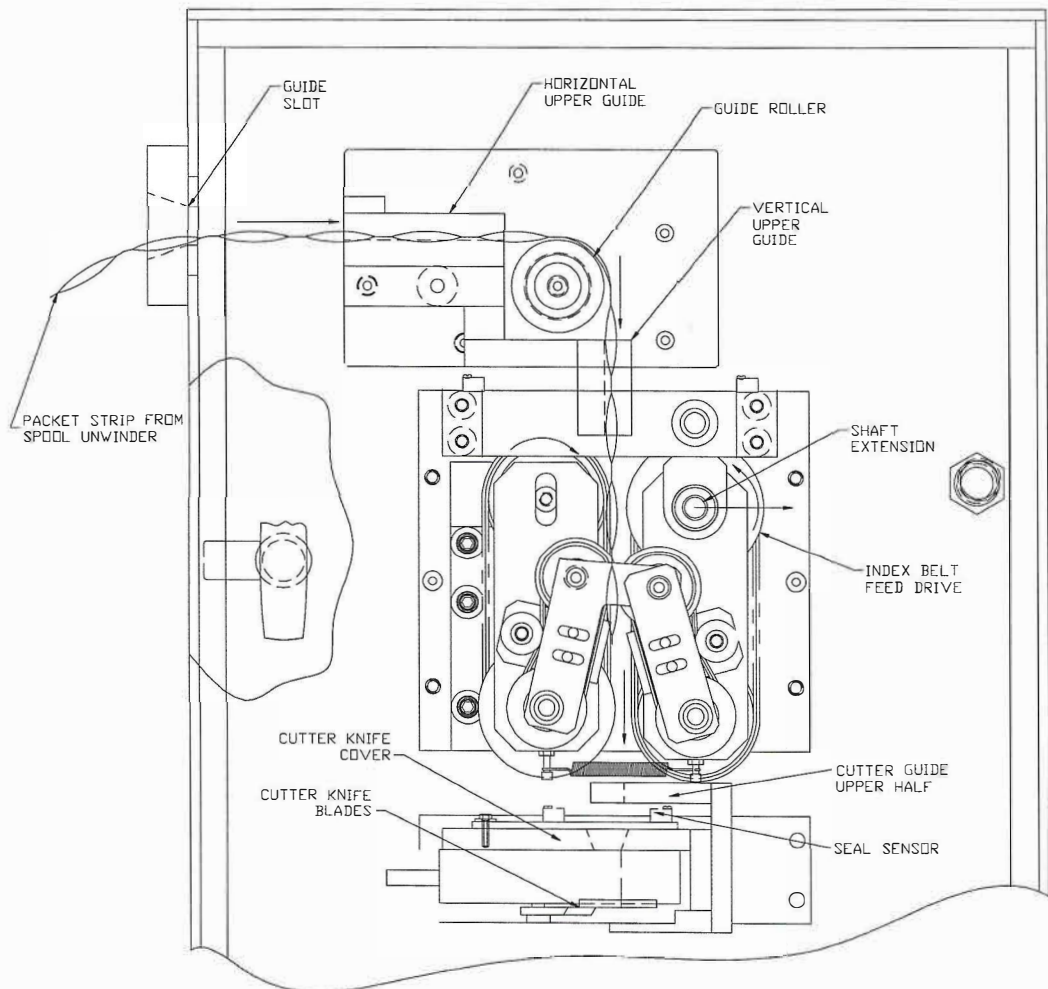


Figure 5.2.2d (Threading the packet strip into the belt feed assembly)