PHARMAFILL™

DEITZ COMPANY, WALL, NJ, USA

Model PS1 Packserter

Operation Manual

REV B

CONTENTS

(Technical Notes/Drawings Begin After Last Page)

Warning

This machine contains moving parts and operates automatically. This may present a hazard to personnel.

Never operate this machine with any covers or guards removed or any guard switches or safety devices removed or bypassed.

Only people who have been correctly trained should operate or clean this machine.

Only people who are correctly qualified and trained should carry out maintenance, installation, or any other service work.

Never clean or service the machine without isolating the electrical supply and isolating the air supply.

Always test for the presence of voltage before touching or working on electrical components.

Note that there might be other requirements that could apply.

Refer to the manuals supplied by the component manufacturers for further safety instructions.

Section 1 - INTRODUCTION

Thank you for purchasing a Pharmafill Model PS1 PACKSERTER automatic packet inserter. We at Deitz Company hope you will find that the Model PS1 meets or exceeds your expectations and requirements for an affordable, reliable, and innovative addition to your packaging operation.

Pharmafill products are designed and manufactured by Deitz Company Inc., in Wall, NJ, USA. We have manufactured machinery for the bottle filling industry since 1966 and began directly marketing our Pharmafill line in 1993. We are a small (but growing) family-owned business that emphasizes quality, innovation, and superior customer service.

If you have any questions or comments, please contact us by phone or visit our website. Chances are someone whose last name is Deitz will handle your inquiry personally.

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The operation manual is designed to make it easier for you to know the machine and to make use of its intended range of operation. It contains important instructions on how to operate the machine safely, adequately, and economically. Observing these instructions helps to avoid risks, to reduce cost for repair work and machine downtime, and enhances the machine's operational reliability and lifetime.

The operation instructions are to be supplemented by further instructions due to existing national regulations on accident prevention and environmental protection.

If used in compliance with the instructions contained in this manual and if safety devices are regularly maintained and properly working, this machine is not dangerous to the operator.

This manual is to be kept accessible to all operators using this machine and it is assumed that before use the operator will read fully and understand this manual and will follow instruction stated within.

As this machine may be used in the packaging of hazardous substances, the operator should be aware of the precautions required for these substances.

In addition to the operating instructions and the binding regulations on accident prevention valid in the country where the machine is being used and at its operational site, the recognized technical rules on safe and proper working must be observed as well.

These operating instructions and the information contained therein have been compiled with due care and attention. However, DEITZ COMPANY does not take any responsibility for misprints, translation errors or other errors and any damages resulting there from.

DEITZ COMPANY retains the right to make changes in the described products to improve functionality, reliability, and design. The measurements or data shown on schematics, sketches and photos are not binding. They are for description purposes.

The information and drawings found in the operation manual are the intellectual property of DEITZ COMPANY and may not be copied or given to third parties.

Section 2 - SPECIFICATIONS

GENERAL

MODEL	PS1 PACKSERTER Packet Inserter
TYPE	AD1090
PRODUCT CAPACITY	¼-gram to 5-gram packets on continuous strip spool.
CHANGE PARTS	Quantity: 3 for each width of strip (1 set included)
SPOOL CAPACITY	11.8” wide x 1” ID core x 18.1” OD (30cm x 2.5cm x 46 cm).
RATE	80 to 100 cut packets per minute, depending on length.

INPUT REQUIREMENTS

VOLTAGE	110 VAC[1]
CYCLES	50/60 HZ
PHASE	1
AMPERAGE	5.0 AMPS
COMPRESSED AIR**	50 PSI (344 kPa), consumes less than 1.0 CFM (28 LPM) [2]
	AIR MUST BE FREE OF WATER VAPOR AND OIL
ROOM HUMIDITY	85% RH non-condensing

PHYSICAL DIMENSIONS

WEIGHT	250 lbs (113 Kg) - without product spool
FLOOR FOOTPRINT	20” wide x 30” deep (51cm X 77cm)
HEIGHT	Adjustable from 66” to 75” high (168 TO 190 cm) [3]
FILLING HEIGHT	Adjustable from 67” TO 76” (171cm to 193cm) [3]
STANDARD CONVEYOR	4.5” wide x 36” to top surface (12cm x 92 cm) [3]
BOTTLE HEIGHT	From 1” to 9” (2.5cm to 23cm) [3]

Notes:

1. Other input voltages are available as factory options if specified at the time of order
2. Compressed air must clean and dry, free of moisture (water) and oil.
3. May be adjusted further by adjusting or modifying leveling feet.

Section 3 - INSTALLATION

A. Unpacking
B. Commissioning
C. Sensors and Gating Cylinders
D. Compressed Air
E. Electric

A - Unpacking

- Carefully remove equipment from crate and remove all packing materials.
- Inspect all supplied equipment for damage (if any damage is present, please notify DEITZ COMPANY immediately).
- Position the machine on the line and adjust the legs of the machine to level the machine. Note that the machine is designed for a standard conveyor height of 36 inches from the floor to the top of belt.

B - Commissioning

- All necessary connections for machine operation have been made prior to shipping (Fig. 3.1-3.3). You will only need to connect clean, compressed air and electrical supply.
- Check that the machine is correctly installed, levelled up and aligned.
- Check that there are no loose bolts, screws and that all electrical connections are tight.
- Ensure that the machine isolator (main disconnect switch) is in the OFF position.
- Do not “megger” the machine (high voltage insulation test) as damage to electronic components may result.
- Apply power to the machine and check polarity and voltage of the incoming supply.
- Check that all emergency stops work correctly.
- Check that all guard switches operate correctly.
- Check that the machine operates correctly.

Figure 3.1

B – Commissioning (continued)

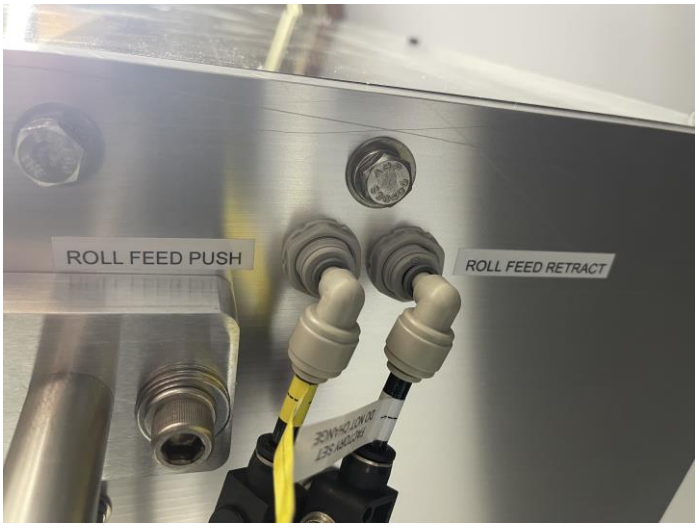


Figure 3.2

Figure 3.3

C - Sensors and Gating Cylinders

- Two Bottle Sensors and two Gating Cylinders are attached to a length of rail
- Using a 7/16" nut driver or combo wrench, remove sensors and cylinders from the demo rail and attach to your conveyor rail (Fig. 3.4)
  (More detailed setup instructions will follow in Fig. 4B., Section 6I and TN0085)

Figure 3.4

D - Compressed Air

- Compressor must be adequate to meet the specifications (see Section 2).
- Machine is supplied with filter and regulator (fig. 4.1).
- The supply air should be clean and dry, free of condensation and oil.
- Connect the pneumatic supply (fig. 3.5). Standard fitting is for ¼" O.D. tubing.

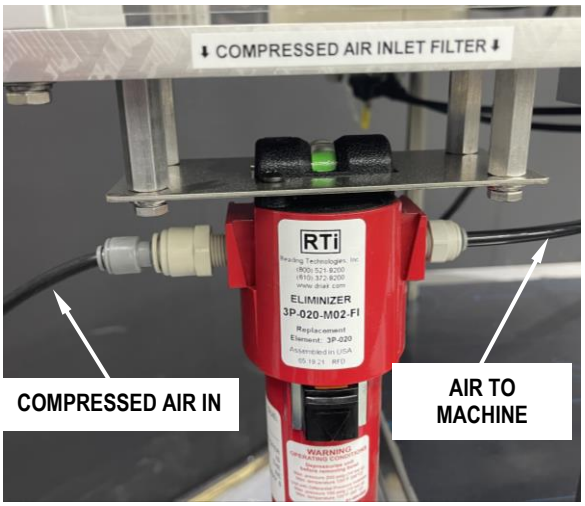


Figure 3.5

E - Electric

- Power source must be adequate to meet the specifications (see Section 2).
- Check the polarity and voltage of the incoming supply.
- The machine must be solidly earthed.
- Make sure the MAIN DISCONNECT SWITCH is in the OFF position (fig 3.6). If it is not, no action will take place, but this is good practice.
- Connect the main electrical supply.

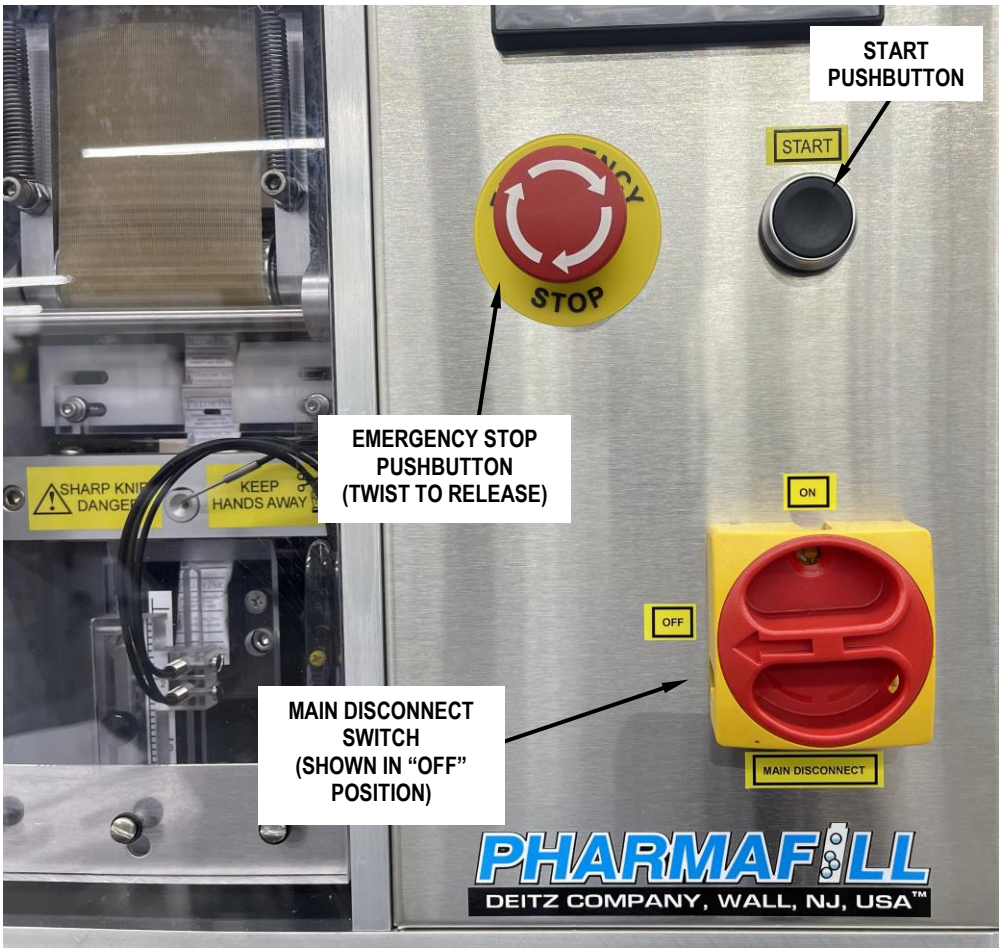


Figure 3.6

E - Electric (continued)

- Make sure the electrical connectors in the back of the machine are secure (fig. 3.7).

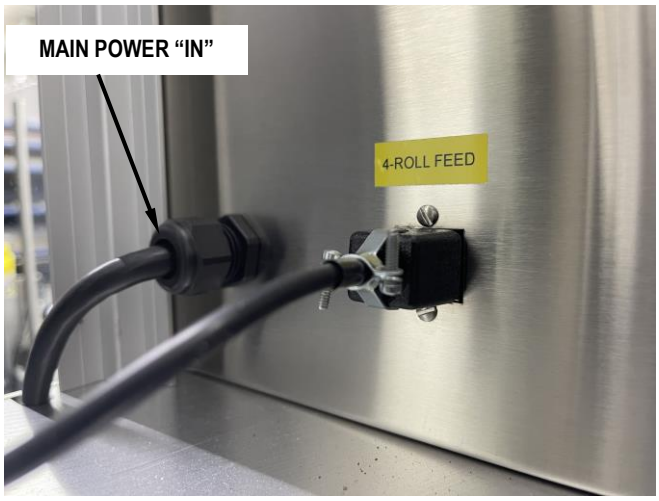


Figure 3.7

- Turn the Main Disconnect Switch to the ON position (fig 3.8). No action will take place.
- To confirm that the machine is powered up, twist and release the EMERGENCY STOP PUSHBUTTON then press the START button. The Operator Interface Panel should light up.

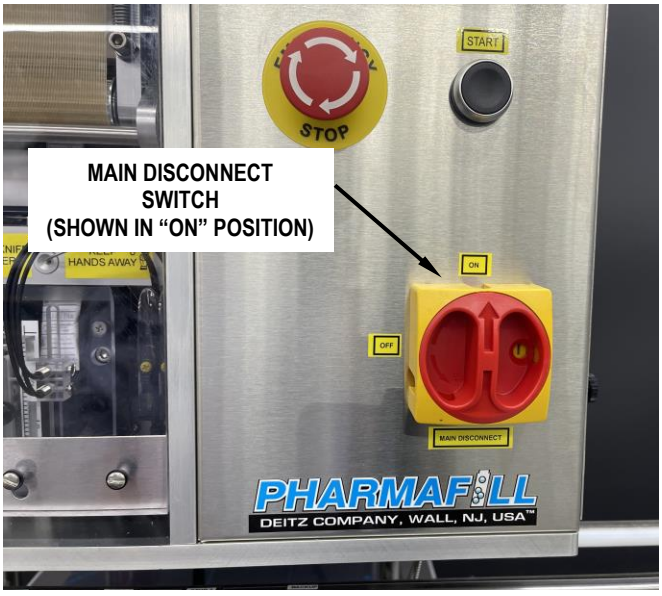


Figure 3.8

- The Packserter is now ready for operation.

Section 4 - FEATURES

A. General
B. Graphic Illustration (fig 4.1)
C. Adjustable Machine Height

A - General

- Automatically cuts continuous strip packets into individual packets.
- Suitable for any strip-type product such as desiccants, oxygen absorbers, lotion samples, fast-food condiments, etc.
- PLC-controlled, with digital touch-pad operator interface.
- Brushless DC step motor drive for repeatability and reliability.
- Easy access, positive drive, belt feed mechanism.
- Pneumatically operated knife assembly.
- 3-color stack light (Green/Yellow/Red) for high-visibility status indication.
- Ready to roll up to any conveyor - includes lift platform and bottle-gating control.
- Stainless steel, anodized aluminum, acetal & polycarbonate construction.

B - Illustrated Features

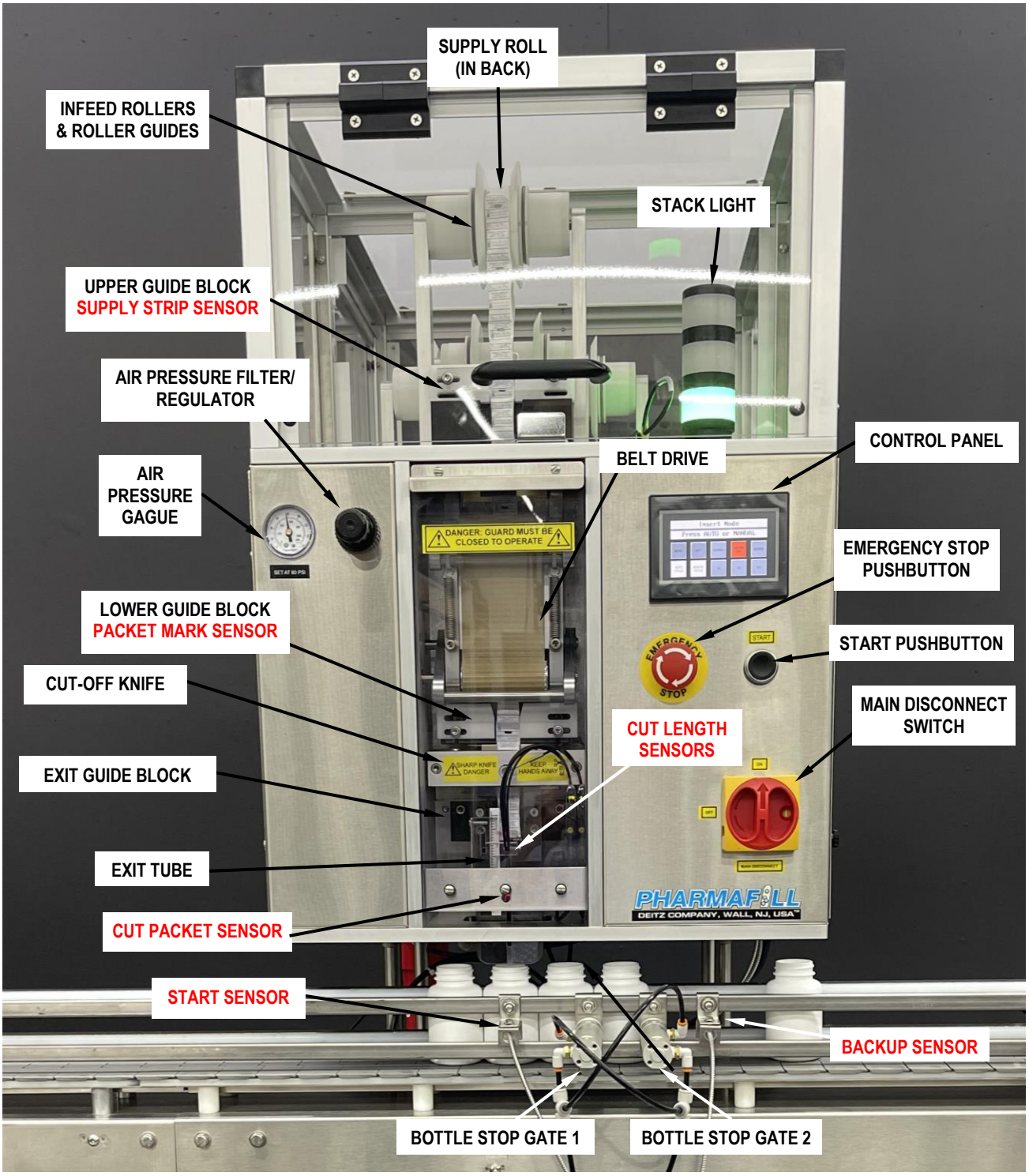
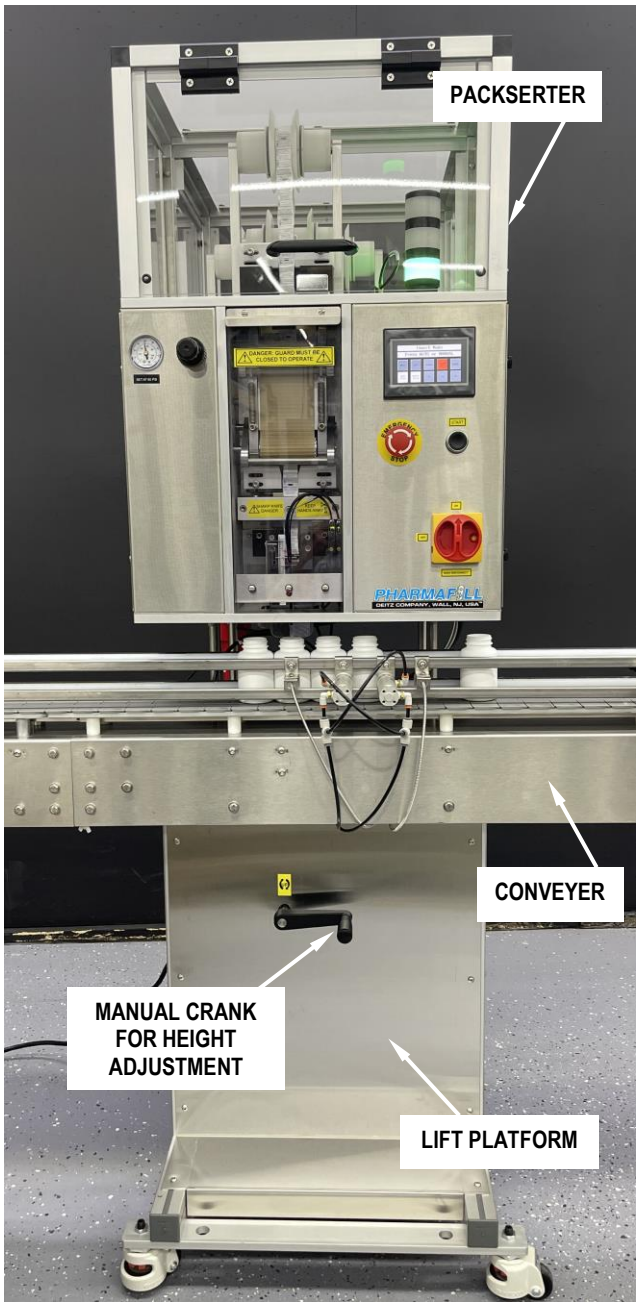


Figure 4.1

C - <u>Adjustable Machine Height</u>

The Packserter is mounted on top of a variable height lift platform (fig. 4.2). To accommodate various bottle heights on a fixed height conveyor, the Packserter height may be manually adjusted via a hand crank on the lower left side of the lift platform. For height range please see the specifications in Section 2.



<u>Figure 4.2</u>

Section 5 - Operation

A. Power Up
B. Using the Control Panel
C. Insert Packets
D. Adjust Settings
E. Feed Options
F. One Step Options
G. Technician Only

A - Power Up

The Main Disconnect Switch (fig 5.1) controls the electric power to the Packserter. No power goes to any electrical component when this switch is in the OFF position.

Figure 5.1

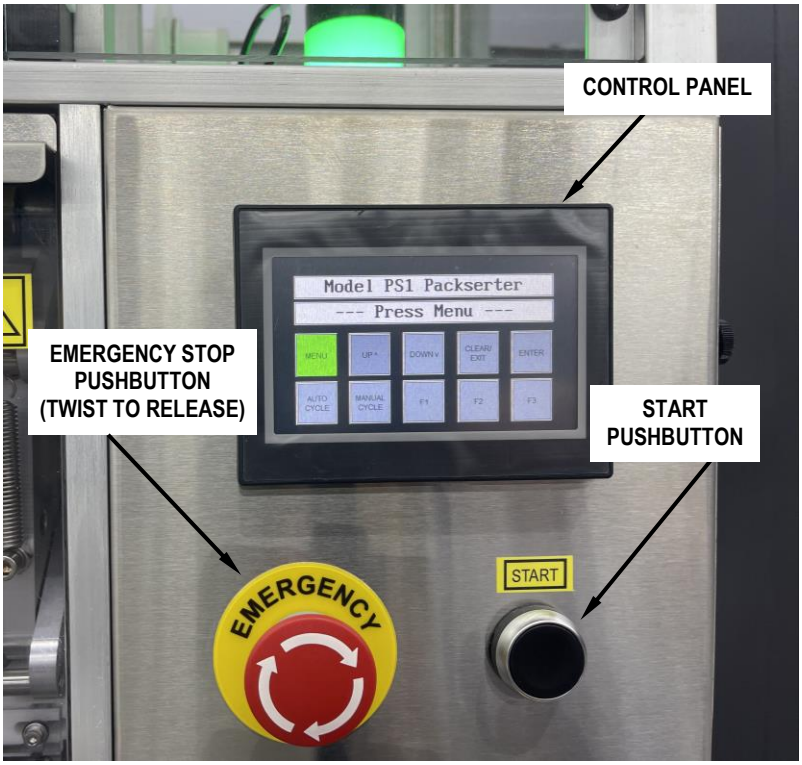
To begin operation, turn the Main Disconnect Switch to the ON position (fig. 5.2).

Figure 5.2

A - <u>Power Up (continued)</u>

The Emergency Stop Pushbutton (fig 5.3) (also know as the E-stop) will also effectively disconnect all power to the electrical components of the machine via a latching relay. When pressed, it will lock into the depressed position. Twist the E-stop to release it.

Press the Start Pushbutton to power up the Machine (fig 5.3).



<u>Figure 5.3</u>

The Control Panel (fig 5.3) will light up, along with other components such as the stack light and the fiber optic light sources.

B - Using The Control Panel

This is the screen (fig. 5.4) you will see when the Packserter is first powered up. The upper row of 5 buttons is for menu control and data input. The lower row of 5 buttons is for Machine control after a menu item is selected.

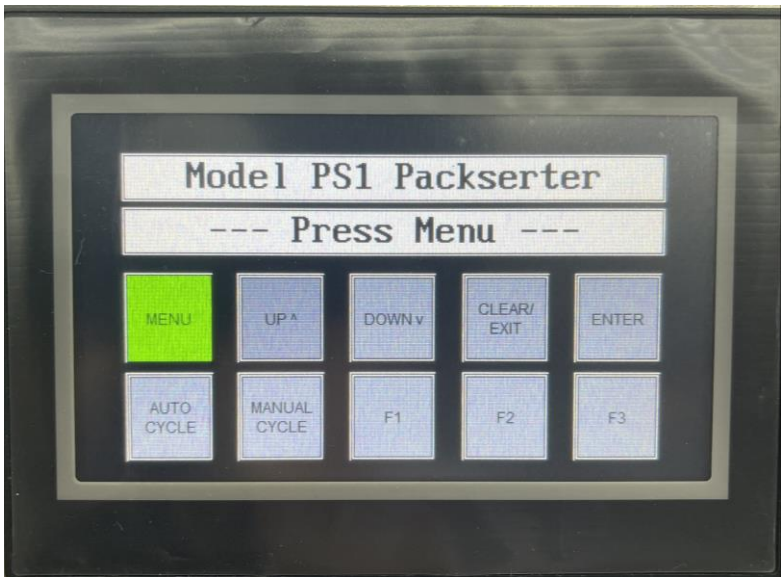


Figure 5.4

Press MENU. All functions are accessed through the menu.

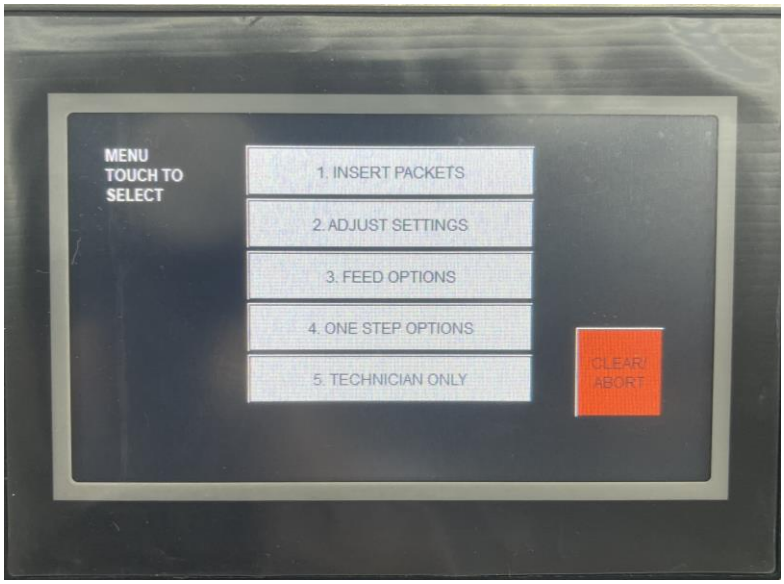


Figure 5.5

C - <u>Insert Packets Mode</u>

Insert Packets mode is used to run the machine manually or automatically.

Press MENU.
The MENU appears.
Press “1. Insert Packets”.
Press ENTER.

To cause the machine to make one cycle, press MANUAL CYCLE.

The machine will make one cycle even if there is no supply strip loaded. This is a momentary contact button. It may be held down to cycle continuously.

To automatically cycle whenever a bottle is present, press AUTO CYCLE.

The machine will cycle when a bottle is present at the start sensor and all proper conditions are met. This is an alternate contact button. Press once to turn it on; press again to turn it off.

The control panel will display “Waiting for Bottle” when there is no bottle at the START SENSOR. A cycle will start as soon as a bottle is detected.

(See Section 4B. for sensor locations)

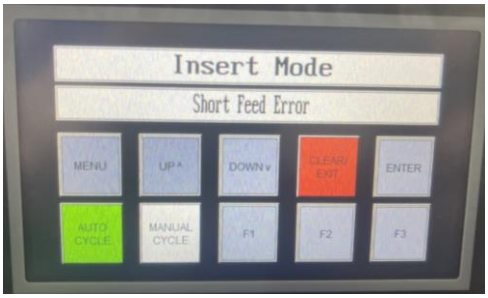
The control panel will display “Bottle Backup” when there is a bottle in front of the BACKUP SENSOR. The machine will not cycle. Once the backup is cleared, the cycle will resume.

(See Section 4B. for sensor locations)

C - <u>Insert Packets Mode (continued)</u>

The control panel will display “Supply Strip Missing” when there is a no strip in front of the SUPPLY STRIP SENSOR in the Upper Guide Block. The machine will not cycle. When the supply strip is restored, the cycle will resume.

(See Section 4B for sensor locations)



If the SHORT sensor output signal is OFF, there is a Short Feed Error. The RED stack light will turn on and the cycle will stop. The HMI will display “Short Feed Error”. Press CLEAR / EXIT.

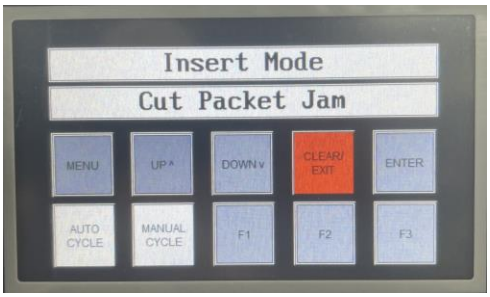
(See Section 8F for Sensor Adjustment)

If the LONG sensor output signal is ON, there is a Long Feed Error. The RED stack light will turn on and the cycle will stop. The HMI will display “Long Feed Error”. Press CLEAR / EXIT.

(See Section 8F for Sensor Adjustment)

The control panel will display “No Cut Pack Dropped” when the CUT PACKET SENSOR in the Exit Tube does not immediately detect a cut packet dropping through after a cut. The operator must press CLEAR/EXIT and correct the problem.

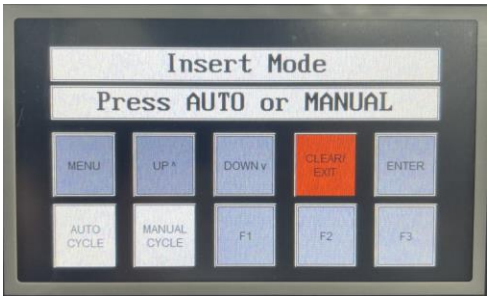
(See Section 4B for sensor locations)



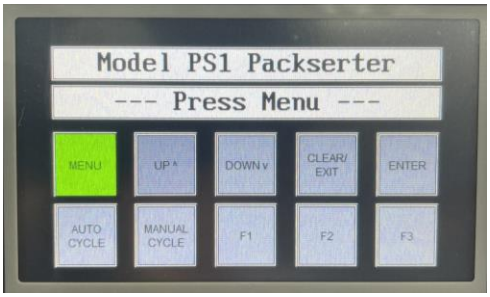
The control panel will display “Cut Packet Jam” when the CUT PACKET SENSOR in the Exit Tube detects something blocking the tube, such as a cut packet. The operator must press CLEAR/EXIT and correct the problem.

(See Section 4B for sensor locations)

C - <u>Insert Packets Mode (continued)</u>



Press CLEAR/EXIT to exit Insert Packets mode at any time and return to the top menu.



Returns to Home Screen.

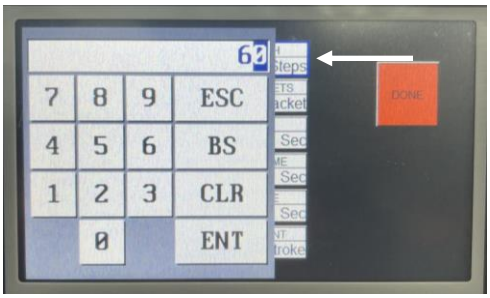
D - <u>Adjust Settings Mode</u>

Adjust Settings mode lets you set the control values for a production run.

Press MENU.
The MENU appears.
Press “2. Adjust Settings”.
Press ENTER.

This is the Settings Menu. To change a value setting, tap the value. A numeric keypad appears.

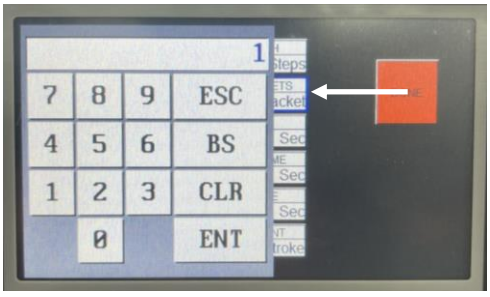
ESC (Escape): Exit without making any changes
BS (Backspace): Delete a digit
CLR (Clear): Set value to Zero
ENT (Enter): Change setting /Return to Settings Menu



1. The first setting is “Offset Length”. This number controls how far the packet strip is advanced after the PACKET MARK SENSOR detects the registration mark.

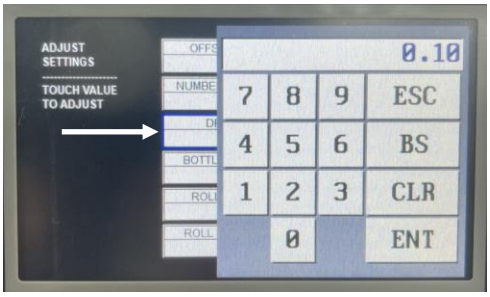
Refer to document TN0097.

(Units = step motor pulses, Range = 0 to 999)



2. The second setting is “No. of Packs”. This is the number of cut packets to be dropped into each bottle.

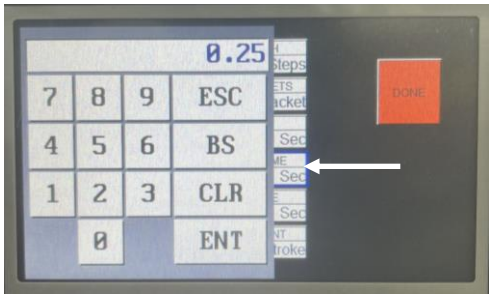
(Units = packets, Range = 1 to 9)



3. The third setting is “Drop Time”. This is the time needed for a packet to drop from the cutoff knife to the bottle.

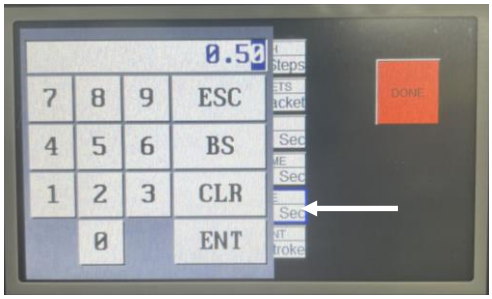
(Units = 1/100 secs, Range = .00 to .99)

D - <u>Adjust Settings Mode (continued)</u>



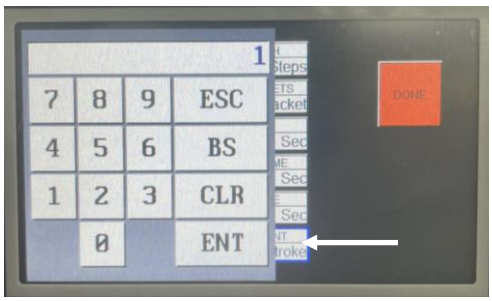
4. The fourth setting is “Index Time”. This is the time needed for the bottles to advance one position on the conveyor.

(Units = 1/100 secs, Range = .10 to 2.00)



5. The fifth setting is “Roll Feed Time”. This is the duration of each advance action of the Roll Feed, which controls the length of roll feed.

Refer to document TN0092.
(Units = 1/100 secs, Range = .00 to 1.00)



6. The sixth setting is “Roll Feed Count”. This is the number of advances actions that will made in one cycle. Adjust this value by using the UP or DOWN arrow keys. Press ENTER to accept the value and return to the MENU screen.

(Units = strokes, Range = 0 to 5)

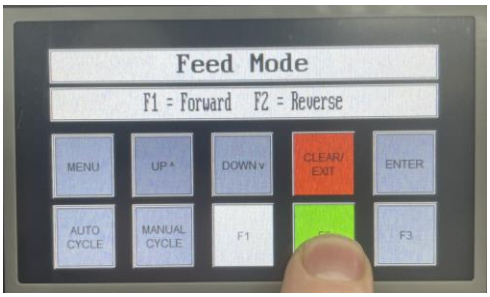
To exit this mode at any time and return to the top menu, press DONE.

E - <u>Feed Options Mode</u>

1. This mode lets you directly control the belt drive.

Press MENU.
The MENU appears.
Press “3. Feed Options”.
Press ENTER.

2. Select one of the options by using the “F” keys.
Press F1 to move the belt forward (down).



3. Press F2 to move the belt in reverse (up).

4. To exit this mode at any time and return to the top menu, press CLEAR/EXIT.

F - <u>One Step Options</u>

1. The One Step mode lets you control each part of the inserting process individually.

Press MENU.
The MENU appears.
Press “4. One Step Options”.
Press ENTER.

2. Select one of the three options by using the “F” keys.

Press F1 to advance the belt feed once (equal to one packet). This allows you to visually check that the Offset value is correct

3. Press F2 to control the cutoff knife. This is an alternating function. Press once to close the knife. Press again to open the knife. This allows you to check the performance of the cutting action.

3. Press F3 to control the bottle indexing function. This is an alternating function. Press once to advance all the bottles by one position. The next bottle in now in the filling position/ Press again to release the first bottle. This allows you to check that the position of each Bottle Gating Stop is correct.

4. To exit this mode at any time and return to the top menu, press CLEAR/EXIT.

G - <u>Technician Only</u>

Press MENU.
The MENU appears.
Press “5. Technician Only”.
Press ENTER to make the selection.

The purpose of this feature is to allow a technician access to internal memory locations in the PLC, without using a laptop computer.

2. This menu can be used to make changes to the timing and status of various machine actions. Normally, the user will never need this feature, but it can be quite useful in certain circumstances.

3. Bottle “In” Time: This sets the time delay of the Start and Backup Sensors. The delay may need to be increased the prevent false triggering with very wide bottles or very slow conveyors.

ESC (Escape): Exit without making any changes
BS (Backspace): Delete a digit
CLR (Clear): Set value to Zero
ENT (Enter): Change setting /Return to Tech Menu

4. Roller Registration Sensor: uses the roller and proximity sensor which is located above the belt feed. Best for packets without the punched hole in the seam. May also be used for pack with the hole. Tap to switch ON/OFF.

5. Edge Trigger: LEADING or TRAILING. Allows the use of two different ranges for offset values, to find the right cut location and to avoid double feeds. Change this setting if you have difficulty getting the cut in the middle of the seam, such as when the offset value is close to zero or very high. Also change it if you get double feeds.
Tap to switch Leading/Trailing.

G - <u>Technician Only (continued)</u>

Leading- the registration signal will be turned on as the leading edge of the seam is detected (pouch-to-seam). This is the default selection.

Trailing- the registration signal will be turned on as the trailing edge of the seam (flat) is detected (seam-to-pouch).

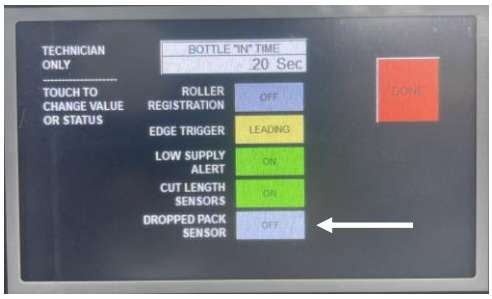
6. Low Supply Alert: Controls the function of the low roll sensor (arm that rests on back of the roll).

The Low Roll Sensor Arm detects when the supply roll is more than half empty, causing the yellow light to flash and a “Low Supply” message on the HMI.

Tap to switch ON/OFF.

7. Cut Length Sensors: Controls the function of the Cut Length Sensors (the ones on the drop chute that prevent improper cuts).

Tap to switch ON/OFF.



8. Dropped Pack Sensor: Controls the function of the sensor at the lower end of the drop chute (the one that detects if cut packet has fallen down the chute and detects jams in the chute).

Tap to switch ON/OFF.

9. To exit this mode at any time and return to the top menu, press DONE.

Section 6 - SETTING UP FOR A RUN

A. Install Supply Roll
B. Install Change Parts
C. Start Up
D. Feed In the Supply Strip
E. Adjust Roller Guides
F. Setup Conveyor
G. Adjust Settings
H. Adjust Machine Height
I. Use One Step Mode to Fine Tune the Setup
J. Run a Manual Test
K. Adjust Dual-Sensor Mounting Block

This section describes the procedure to follow when initially setting up the Packserter to run a particular job. This is the suggested sequence of tasks to set the Packserter up for a new or different product. For more detailed explanation of each task, you may have to look elsewhere in this manual or in documentation provided by third parties, such as your conveyor manufacturer.

A. **Install the supply roll** on the shaft of the Supply Roll Stand. First loosen and remove the retaining collar using a 3/16 hex key (fig. 6.1). The roll should be installed to unwind from the top. Re-install the retaining collar, making sure to engage the pin on the retaining collar with the hole in the roll hub.

B. **Install the change parts** for the width and depth of strip you are using (See section 8A).

C. **Start up** the Packserter by turning on the Main Disconnect Switch, then pressing the Start button. Observe that the Control Panel lights up.

D. **Feed in the supply strip** to the Infeed Rollers. There are two options here:

1. **Direct feed** (fig 6.2): bypass the Tension Bar and go directly to the Infeed Rollers. This is the simplest and most reliable method. This depends on the belt drive not slipping due to unwind tension on the supply roll.

2. **Tension control** (fig. 6.3): feed the strip under the Tension Bar and then to the Infeed Rollers. This is necessary when the supply roll is difficult to unwind and produces too much tension so that the Belt Drive may occasionally slip when pulling the strip.

Pass the strip through the Infeed Rollers as shown (fig, 6.2 or 6.3) and down through the Upper Guide Block (fig. 6.4). Raise the Lifting Handle of the Belt Drive to open the space between belts. Feed the strip into the belts and release the Lifting Handle to trap the end of the strip between the belts.

E. **Adjust the Roller Guides** (fig 6.2) by using a 3/16 hex key to loosen and move the adjusting clamps. The large pair on the wide roller should be placed widely apart to allow the strip to unwind from side to side without riding over the guides. The smaller pair on the narrow roller should be set to conform closely to the width of the strip. All the guides must be centered on the opening of the Upper Guide Block (fig. 6.4).

F. **Setup the conveyor**, according to the manufacturers directions or based on experience.

1. Adjust width between rails to allow the bottles to pass freely down the conveyor and directly under the Exit Tube of the Packserter.

2. Locate the Bottle Stop Gates and Bottle Sensors as shown in drawing TN00085 in the back of this manual. You will fine-tune the Bottle Stop Gate positions in step 6I.

G. **Adjust the control settings** of the Packserter (See Section 5D) for your product.

H. **Adjust machine height** to bring the bottom of the Exit Tube approximately 1/8” to 1/4" above the top of the bottle. Make sure the bottle is centered under the Exit Tube left-to-right and front-to-back.

I. **Use One Step Options to fine tune the setup** (See Section 5F):

1. Use the Feed function to move the packet down to the cutoff blade (press F1 one or more times). Look at the cutting area (fig. 6.5) to make sure the packet will be cut in the proper place. If necessary, adjust the Offset (See Section 5D) to correct any error before cutting a packet. If the packet appears to be below the desired cutoff point, make the offset value smaller. If the packet appears to be above the cutoff point, make the offset value larger.

2. Use the Cut function to make a test cut (press F2 once to close the knife and once again to open it). If the cut is not satisfactory, see Section 9B Troubleshooting for help.

3. Set the conveyor to the desired speed and use the Index function of the One Step Options to step through the bottle indexing sequence. Adjust the Bottle Stop Gates so the bottles are released smoothly and without being “kicked”.

J. **Run a manual test** by using the Manual Insert function (See Section 5C). This will make one complete cycle: cut a pack, advance the strip, and index the bottles. If all is satisfactory, you are ready to go.

K. **Adjust Dual-Sensor Mounting Block** (fig. 6.6) once the length is set correctly and you have made several satisfactory cuts. The Cut Length Sensors are only active in AUTO Insert Mode. The upper sensor is the SHORT sensor. The lower sensor is the LONG sensor. Prior to starting a

cut and feed cycle, the Short Sensor must detect the lowest edge of the strip, while at the same time the Long Sensor must NOT detect anything. If these conditions are not met, the cycle is aborted, and the error type is reported on the HMI.

a. Loosen the 8-32 Thumbscrew on the Dual-Sensor Mounting Block.

b. Move the adjusting block up and down, confirming that the base unit signal lights turn on and off as expected for both sensors.

c. Set the final position for the adjusting block so that the leading edge of the packet seam is midway between the SHORT and LONG sensors.

d. If you experience false errors, or you miss true errors, try adjusting the sensor block up or down a small amount, or reset the gain adjustment on the sensors.

(Refer to Section 8F for Sensor Adjustment)

Figure 6.1

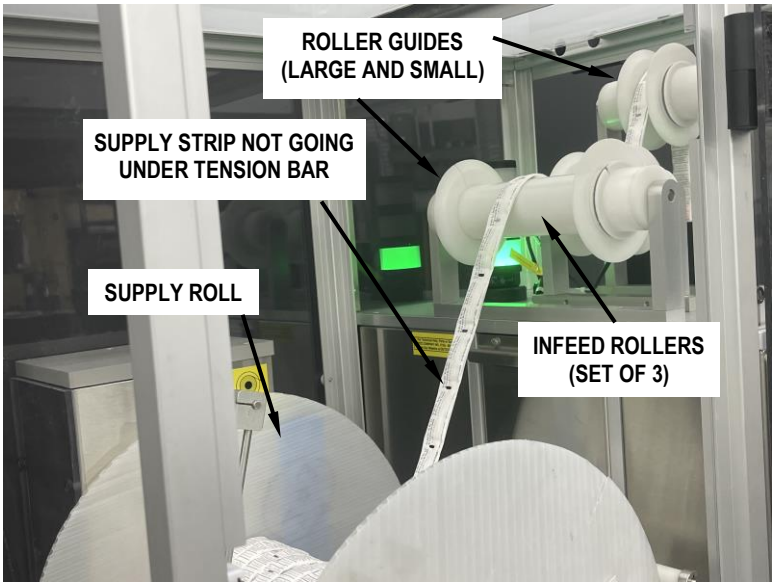


Figure 6.2

Figure 6.3

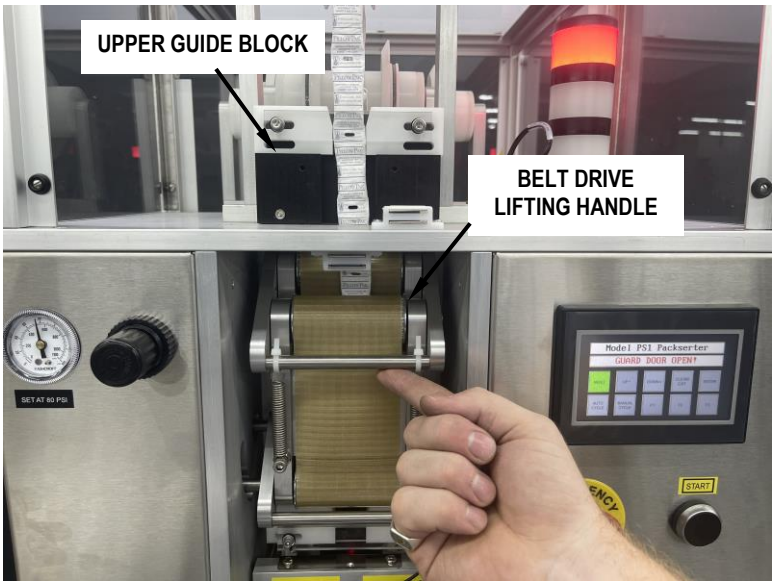


Figure 6.4

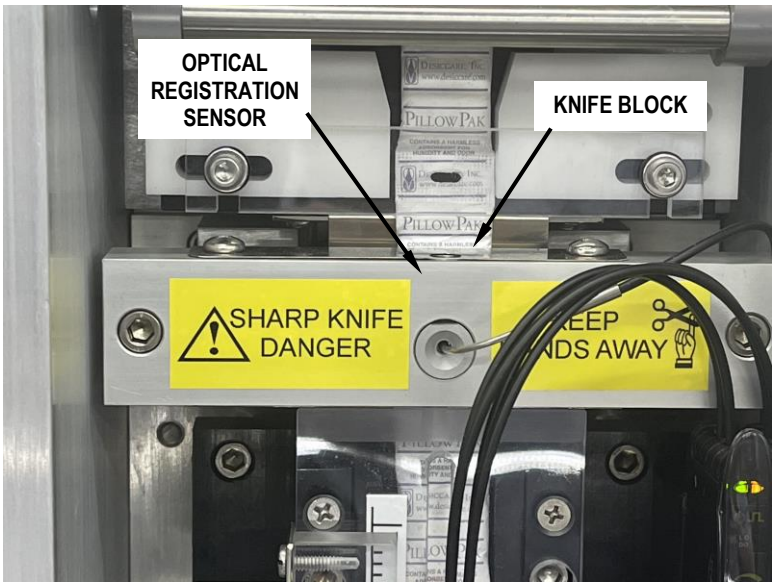


Figure 6.5

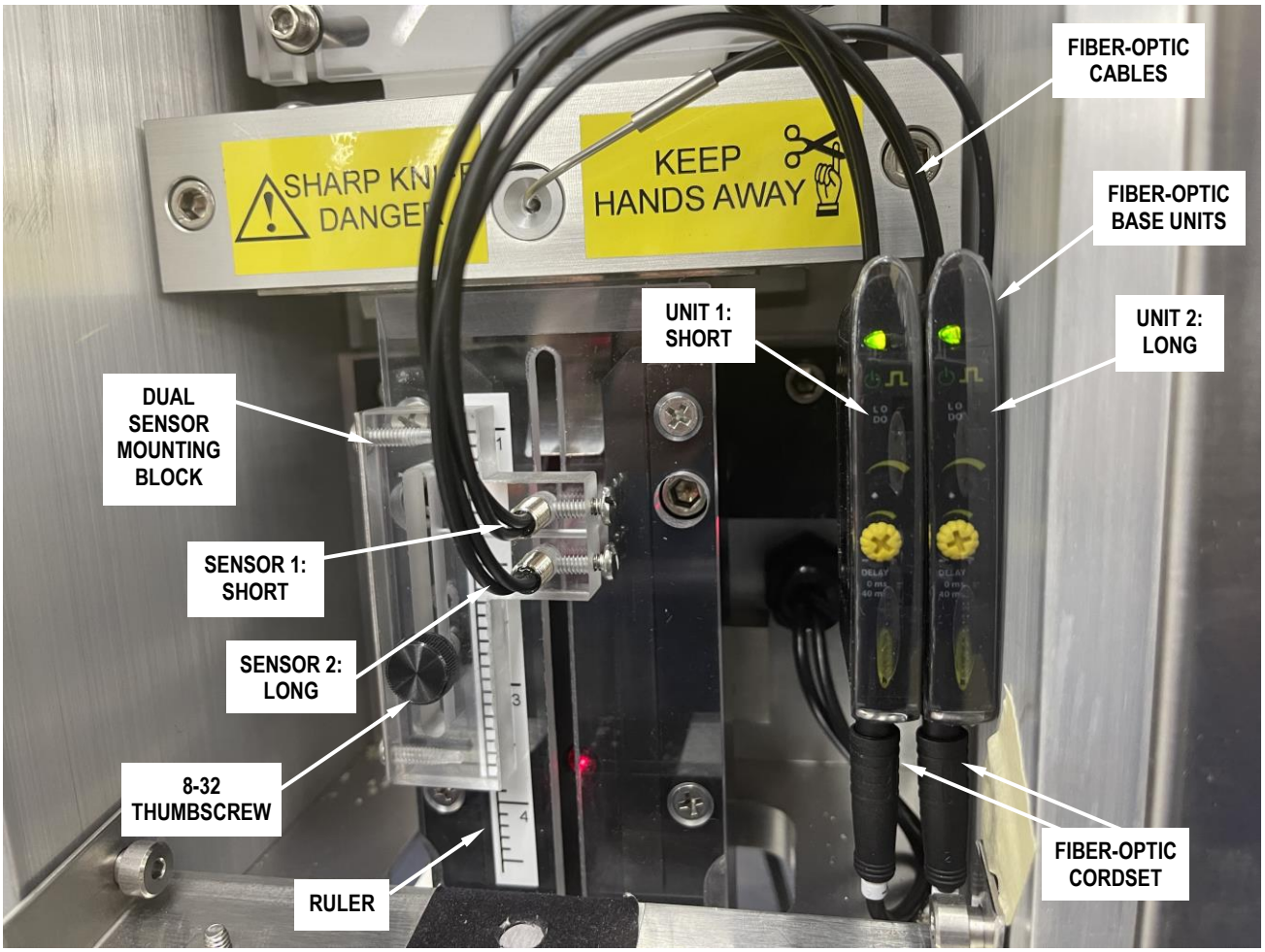

FIBER-OPTIC CABLES
FIBER-OPTIC BASE UNITS
UNIT 1: SHORT
UNIT 2: LONG
DUAL SENSOR MOUNTING BLOCK
SENSOR 1: SHORT
SENSOR 2: LONG
8-32 THUMBSCREW
RULER
FIBER-OPTIC CORDSET
KEEP HANDS AWAY

Figure 6.6

Section 7 - RUNNING PRODUCTION

A. Start Up
B. Check Supply Roll and Strip
C. Check Bottles
D. Test Operation
E. Begin Operation
F. Stopping The Packserter Manually
G. When The Packserter Stops Automatically

This section describes the procedure to follow when starting or re-starting production when the Packserter is set up and ready to go, such as after a shift change or a break. This is the suggested procedure to start and run production on the Packserter.

A - Start Up

- Turn on the Main Disconnect switch.
- Press the Start button.
- Check the compressed air pressure is correct.

B - Check Supply Roll and Strip

- Check that the supply roll is setup correctly.
- Check that the strip is properly threaded all the way to into the drive belts.
- Check that the end of the strip is at the cutting point.

C - Check Bottles

- Check that the bottles are setup correctly.
- Check that the Start and Backup sensors are positioned correctly.

D - Test Operation

- Put the machine into the Insert mode.
- Press MAN to make 2-3 cycles.
- Confirm that the packets were cut and inserted correctly.

E - Begin Operation

- Put the machine into the Insert mode.
- Press AUTO
- Observe operation for 5-10 cycles to make sure all is well.

F - To Stop The Packserter Manually

- Press STOP
- Press CLEAR/EXIT
- Open the guard door.

G - When The Packserter Stops Automatically

The Packserter will stop automatically for several reasons. The stack light will alert you about this

- When the stack light is green, the machine is ready or running.
- When the stack light is yellow, it indicates a minor fault condition. The machine will continue operation as soon as the fault is corrected.
  - No strip
  - No bottles
  - Bottle backup
- When the stack light is red, it indicates a major fault condition. The machine will not restart without operator intervention.
  - No cut packet
  - Cut packet jam
- When the machine stops automatically, read the message on the control panel. See Section 5C for an explanation of the message.
- Also see Section 9 for technical information.

Section 8 - ROUTINE MAINTENANCE

A. Installing Change Parts
B. Cleaning
C. Belt Maintenance
D. Knife Maintenance
E. Knife Blade Adjustment
F. Sensor Adjustment

A - Installing Change Parts

Drop Chute Assembly: Custom made based on width and depth of each packet to ensure consistent positioning at the point of bottle entry.

1. Remove #8-32 Thumbscrew and carefully leave Dual Sensor Mounting Block off to the right side of the Guard Door.

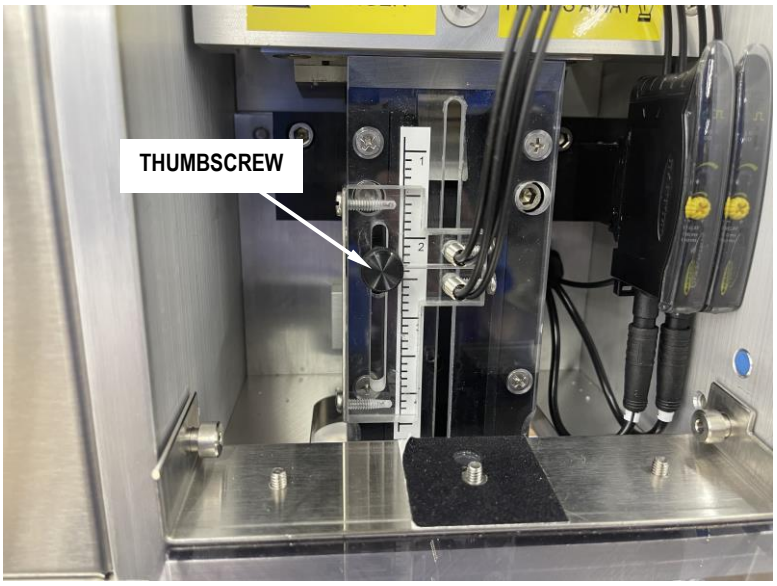


Figure 8.1

A - <u>Installing Change Parts (continued)</u>

2. Remove FOUR (4) screws from Drop Chute Cover with Phillips head screwdriver.

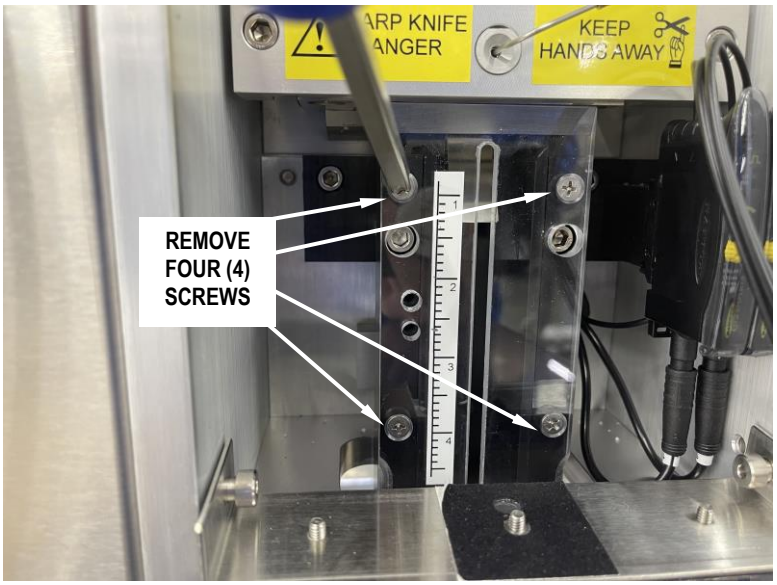


Figure 8.2

3. Remove Drop Chute Insert.

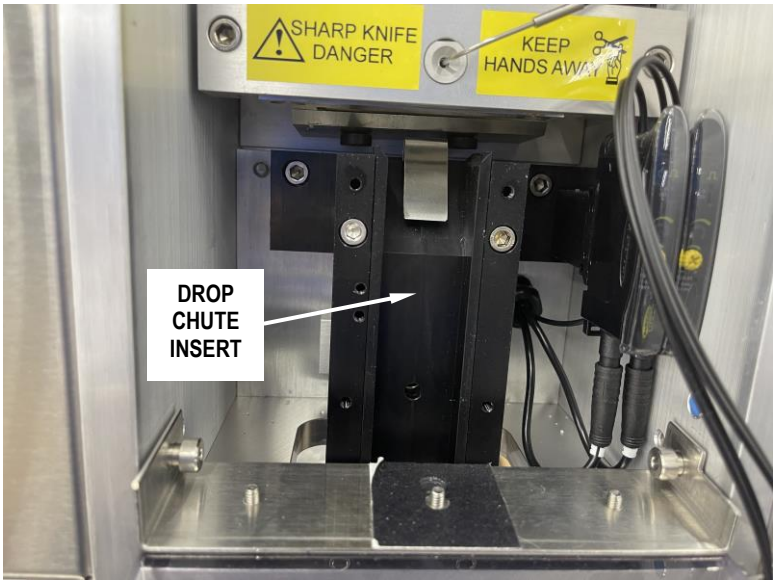


Figure 8.3

A - <u>Installing Change Parts (continued)</u>

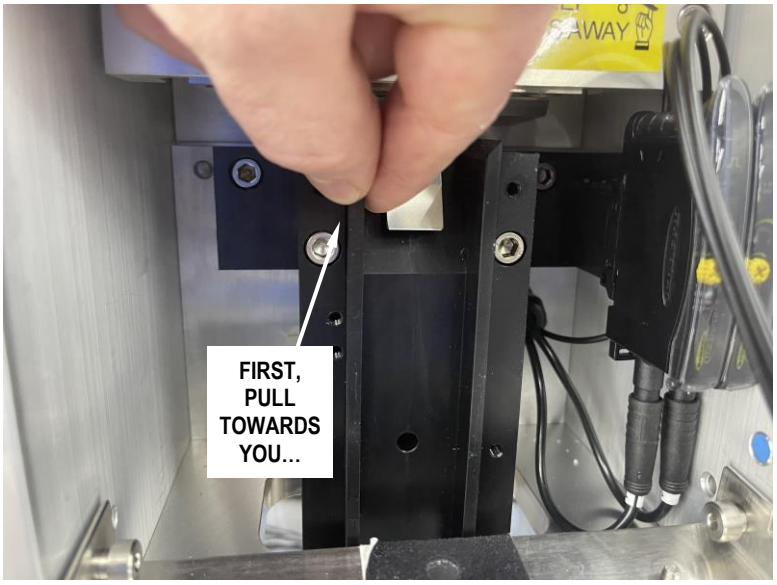


Figure 8.4

Figure 8.5

A – <u>Installing Change Parts (continued)</u>

4. Drop Chute Insert is removed.

Figure 8.6

5. Inspect back side of Drop Chute Insert for Drop Chute / Packet Dimensions. Make sure Drop Chute Insert matches your product.

Figure 8.7

A - <u>Installing Change Parts (continued)</u>

Figure 8.8

6. Install new Drop Chute Insert by sliding down and pushing back into position

Figure 8.9

7. Reinstall Drop Chute Cover with FOUR (4) Phillips head screws.

8. Reinstall Dual Sensor Mounting Block with #8-32 Thumbscrew.

B - Cleaning

Washdown: The Packserter is constructed with contact surfaces that are made of materials suitable for food grade packaging, but it is not waterproof and is not intended for full wash down. If full washdown is performed on the equipment near the Packserter, the Packserter must be completely protected by a waterproof cover or by other means. Washdown will void the warranty.

Cleaning solutions: Stainless steel is resistant to corrosion due to most cleaning solutions. Other contact materials such as aluminum and nonmetallics (plastics, or rubber) are generally less corrosion-resistant and care should be exercised in their cleaning. Aluminum is readily attacked by acids as well as highly alkaline cleaners, which can render the surface non-cleanable. Plastics are subject to stress cracking and clouding from prolonged exposure to corrosive cleaning agents. Use a USDA approved sanitizing solution that is safe for all materials listed below, in a spray bottle, by lightly wiping down all contact surfaces. In the absence of such a cleaner, recommendations follow.

Stainless steel: This material is resistant to damage from most cleaners. Routine cleaning can be done with soap and water, alcohol.

Anodized aluminum: Any highly acidic or alkaline cleaner will etch the aluminum over time and damage it. Soap and water, or alcohol is acceptable.

Clear plastic: The clear plastic material is polycarbonate (known as Lexan). Cleaning with alcohol or acetone will damage it and should never be used. Ammonia or any strong cleaner will make it cloudy over time. It may be safely cleaned with soap and water.

Drive belts: These are made from polyurethane and Kevlar. These materials are resistant to damage from most cleaners. Routine cleaning can be done with soap and water, or alcohol.

Other plastic: All other manufactured plastic parts are made from acetal (known as Delrin). It is resistant to damage from most cleaners. Routine cleaning can be done with soap and water, or alcohol.

C - Belt Maintenance

If the surfaces of the belts become stained with ink (transferred from the printing on the strip packets), acetone may be used to clean them. You should then follow up with soap and water, or alcohol.

If the friction of the belt surfaces becomes reduced over time, they may be cleaned with trichlorethelyne. You should then follow up with soap and water, or alcohol.

D - Knife Maintenance

WARNING: DANGER OF BODILY INJURY!

Before doing any work on the knife or in the knife area, disconnect the incoming air supply line. There must be no air pressure in the machine and therefore no possibility of the knife moving unexpectedly. The Movable Blade is very sharp!

1. Cleaning: Clean the knife as needed, using the cleaning guidelines in Section 8B.

2. Servicing: If it is necessary to service the knife, it may be easily removed as a unit. Please contact Deitz Company for assistance.

3. Blade Replacement: (refer to fig. 8.6) Tools Needed: 1/8", 3/16" and 5mm hex keys.

   i. Use the 3/16" hex key to remove the Exit Guide Assembly (see Section 8A).

   ii. Remove the Movable Blade by using the 5mm hex key to remove the two (2) adjusting screws. Be careful to catch and retain the two (2) springs that are behind the blade and the locking nuts that are on the other side of the mounting block.

   iii. Remove the Fixed Blade by using the 1/8" hex key to remove the two (2) mounting screws.

   iv. Install the new blade set following the reverse of the removal procedure.

   v. Follow the adjustment procedure in Section 8E.

E - Knife Adjustment

WARNING: DANGER OF BODILY INJURY!

Before adjusting the knife, disconnect the incoming air supply line. Air pressure must be zero for this procedure.

(Refer to fig. 8.6) Tools Needed: 3/16" and 5mm hex keys.

1. Use the 3/16" hex key to remove the Exit Guide Assembly (see Section 8A).

2. By hand, slide the Movable Blade forward to the fully closed position. If it does not move smoothly, use the 5mm hex key to turn the two (2) adjusting screws CCW until it does.

E - <u>Knife Adjustment (continued)</u>

3. With the knife in the closed position, turn both adjusting screws CW (tighten) all the way, so that the Moveable Blade is flat against the Fixed Blade, front to back and left to right. Do not overtighten.

4. Adjustment 1: Turn the Right adjustment screw CCW (loosen) 1/4 turn (90°).

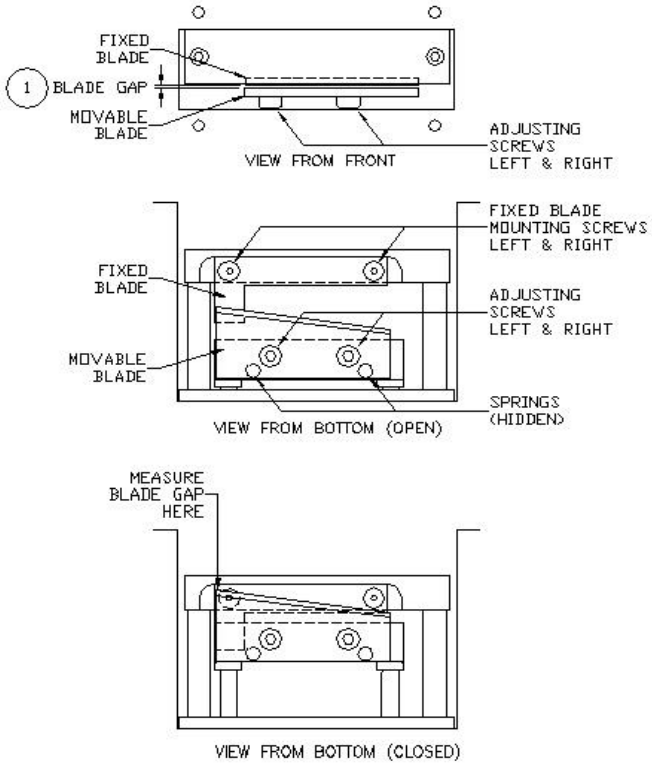
5. Adjustment 2: Turn the Left adjustment screw CCW 1/3 turn (120°). The Blade Gap should now be approximately .040" (1.0 mm). Measure the gap at point marked (1) in fig. 8.6.

6. By hand, slide the Movable Blade back and forth. It should move smoothly.

7. Hold a piece of paper in the cutting area. By hand, move the Movable Blade back and forth to make a test cut. If the results are unsatisfactory, make slight changes to the adjustment screws until the test cut is good.

8. Install the Exit Guide Assembly.

9. Restore the compressed air supply to the machine.



<u>Figure 8.6</u>

F - Sensor Adjustment

There are seven fiber optic sensors in the Packserter. Each consists of an amplifier and a fiber optic cable. Five amplifiers are located inside the electrical enclosure on the right side of the machine (fig. 8.7). Two amplifiers are located inside the front door of the machine beneath the knife (Fig. 6.6). One end of each cable is attached to an amplifier and the other (the tip) is mounted in the area where the sensing takes place. In the electrical panel, labels above the amplifiers identify them by function.

There are 2 lights and one screwdriver-adjustable trim pot on each amplifier. The green light indicates the sensor is connected +24VDC power. The yellow light indicates the sensor sees something (steady = strong signal, blinking = weak signal). The trim pot sets the signal level which will turn on the yellow light. It is 15-turn pot with slip clutch (may be turned beyond 15-turns).

A typical procedure to set the sensors is as follows:

1. With no target blocking the sensor: if the yellow light is on, turn the trim pot CCW until it turns off.
2. With no target blocking the sensor: turn the trim pot CW until the light turns on.
3. Place the target in front of the sensor: turn the trim pot CCW until the light turns off, counting the number of turns.
4. Turn the trim pot CW one half the number of turns counted in step c.

This will set the level in the middle of the usable range. You may fine-tune it from there if needed.

Name (nickname)	Tip Location	Reference
SN1 – Strip Present (Presence)	Upper Guide Block	fig. 8.8
SN2 – Strip In Register (Mark)	Lower Guide Block	fig. 8.9
SN3 – Strip Cut Packet (Drop)	Exit Tube	fig. 8.10
SN4 – Bottle Start (Start)	Conveyor Rail	Drawing TN 0085
SN5 – Bottle Backup (Backup)	Conveyor Rail	Drawing TN 0085
Short Cut Sensor	Mounting Block	Fig. 8.11
Long Cut Sensor	Mounting Block	Fig. 8.11

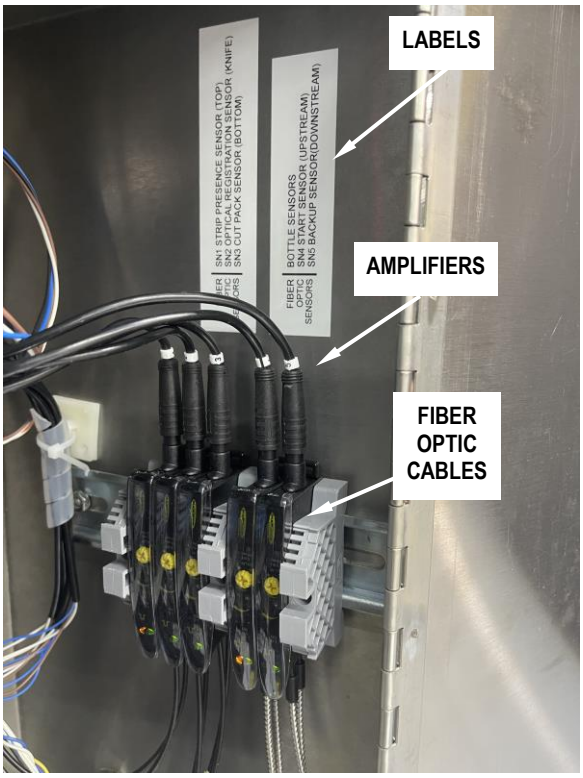


Figure 8.7

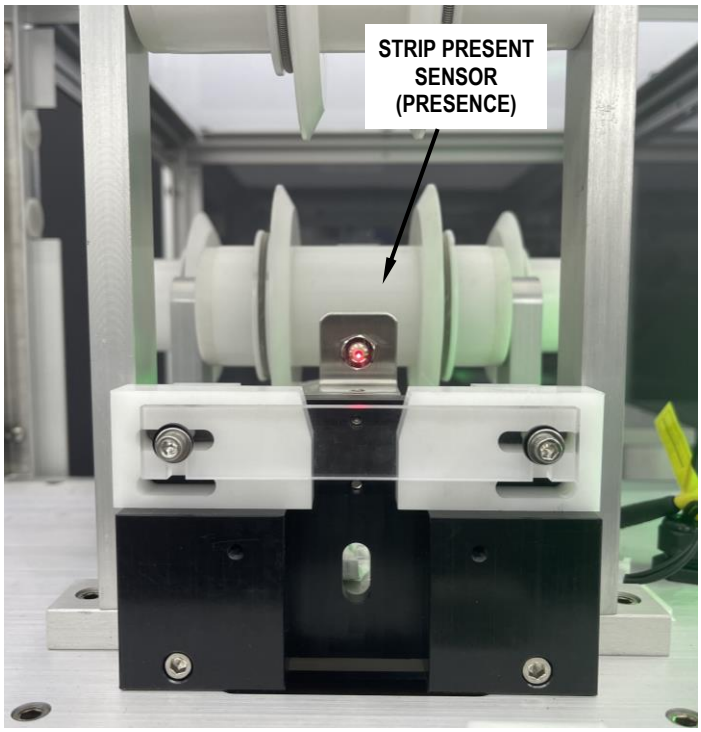


Figure 8.8

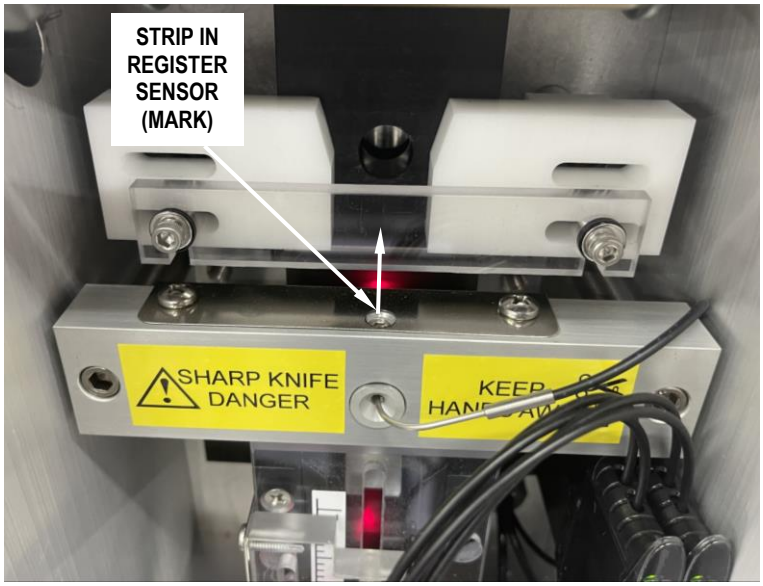


Figure 8.9

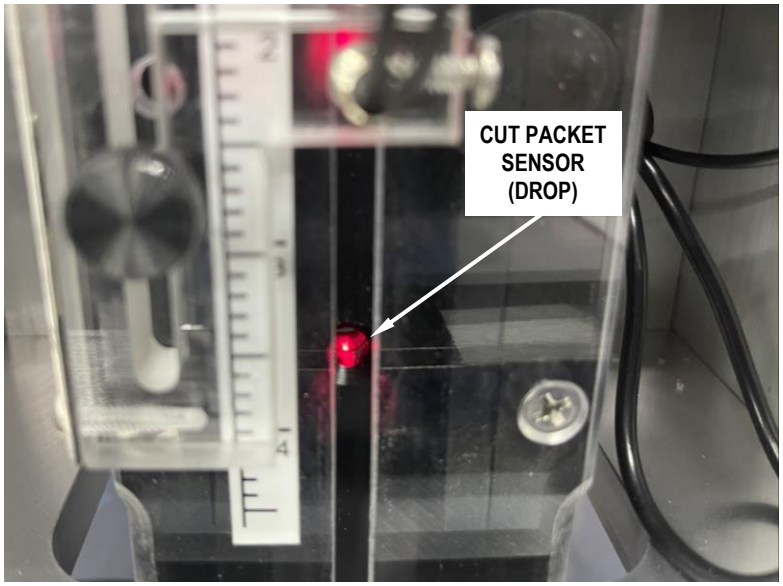


Figure 8.10

Figure 8.11

Section 9 - TECHNICAL INFORMATION

A. Cycle of Operation
B. Troubleshooting
C. Index of Technical Notes/Drawings

A - Cycle of Operation

Manual Cycle

1. If MAN button + no jam at SN3 + guard door closed =
2. Cycle Knife then when done
3. Cycle Belt Drive + Index Bottles then when done return to top

If the guard door is opened at any time, the machine will drop out of the cycle and return to the top menu.

Automatic Cycle

1. If AUTO button + strip at SN1 + no jam at SN3 + start bottle at SN4 + no backup bottle at SN5 + guard door closed =
2. Cycle Knife then when done
3. Start T1 (drop time) + Cycle Belt Drive then
4. When T1 done, Index Bottles then
5. If T1 + drop detected at SN 3 return to top
   If T1 + no drop detected = fault, stop cycle

If the guard door is opened at any time, the machine will drop out of the cycle and return to the top menu.

Knife Cycle

1. Close knife then wait T2 then
2. Open knife then wait T3 then proceed to next

Belt Cycle

1. Feed strip until mark detected at SN2 then
2. Feed strip to offset value then proceed to next

Index Cycle

1. Withdraw stop one + extend stop 2 then wait T4 (index time) then
2. Extend stop 1 + withdraw stop 2 then wait T4 then proceed to next

B - <u>Troubleshooting</u>

1. No power overall or to some components
   - ❑ Check power cord is plugged in and in good condition
   - ❑ Check Main disconnect is on
   - ❑ Check STOP is released
   - ❑ Press START
   - ❑ Check fuses inside right side electrical enclosure (LED on indicates blown fuse)

2. Have power but no response
   - ❑ Check guard door is closed
   - ❑ Check air pressure is 40-80 psi
   - ❑ Check fuses inside right side electrical enclosure (LED on indicates blown fuse)
   - ❑ Check PLC is in run mode and terminal mode
   - ❑ Check PLC is connected to control panel

3. Cutting: partially or no cut
   - ❑ Check for obstruction at the blades
   - ❑ Check air pressure is 40-80 psi
   - ❑ Check fuses inside right side electrical enclosure (LED on indicates blown fuse)
   - ❑ Adjust blades
   - ❑ Replace blades

4. Cutting packet in wrong place
   - ❑ Check setting for Offset value
   - ❑ Check supply roll for binding or other obstruction of strip
   - ❑ Check feed path of strip from supply roll to knife
   - ❑ Check spring action on belt drive
   - ❑ Check belts for slipping and cleanliness

5. Jamming supply strip
   - ❑ Check tension bar in working correctly
   - ❑ Bypass tension bar if possible
   - ❑ Check roller guides are set correctly
   - ❑ Check that the change parts are correct size for product
   - ❑ Check for obstructions
   - ❑ Try wider changes parts

6. Jamming cut packet below knife
   - ❑ Check roller guides are set correctly
   - ❑ Check that the exit guide block and tube are correct size for product
   - ❑ Check for obstructions
   - ❑ Try wider changes parts

C - Index of Technical Notes/Drawings

(Technical Notes/Drawings Begin After Last Page)

Number	Title	No. of Pages
TECH NOTES		
TN0085	PS1 Bottle Stop Gating Setup	2
TN0092	PS1 Roll Feed Technical Info	3
TN0097	Packet Length Conversion Chart	1
DRAWINGS		
9001-86	PS1 Dimensional Drawing	1
SC 1009	PS1 Wiring Schematic	11
SC 1008	PS1 Air Line Schematic	3

Addendums or additional technical data

_____	_____	__
_____	_____	__
_____	_____	__
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NOTE	REV	DESCRIPTION	DATE
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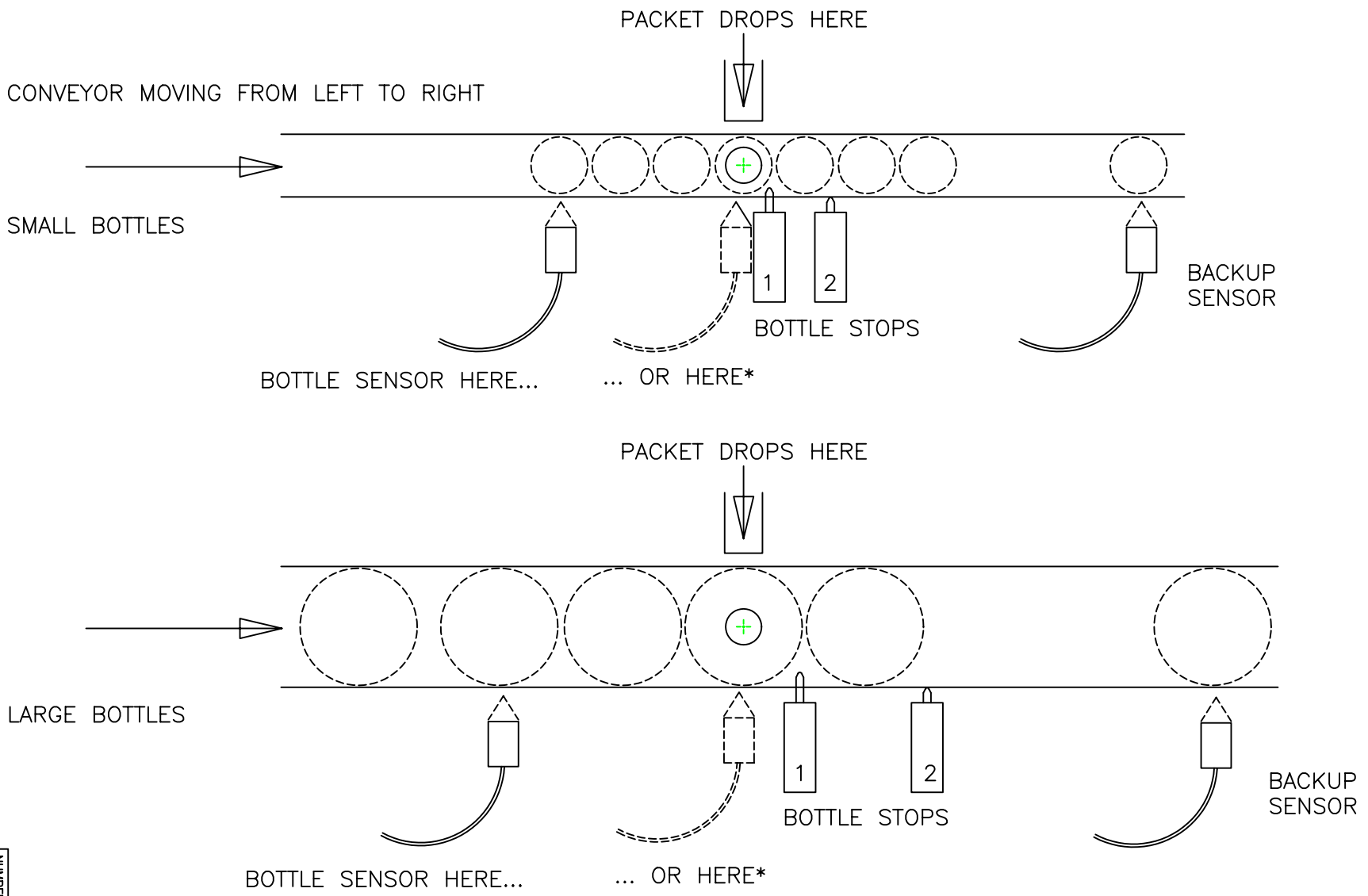
REVISION –

NUMBER: TN 0085



*BOTTLE SENSOR MAY BE FOCUSED ON BOTTLE BEING FILLED OR ANY BOTTLE UPSTREAM

FOR ALL BOTTLES SIZES, THE DISTANCE BETWEEN EACH BOTTLE GATING STOP IS ALWAYS EQUAL TO ONE BOTTLE WIDTH.

NUMBER: TN 0085

REVISION –

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

PRODUCT PS1		BY SJD2	DATE: 05–12–05
TITLE SET–UP: BOTTLE GATING STOPS AND BOTTLE & BACKUP SENSORS MOVING LEFT TO RIGHT		SHEET 1 OF 2	
		NUMBER TN 0085	REVISION –

NOTE	REV	DESCRIPTION	DATE
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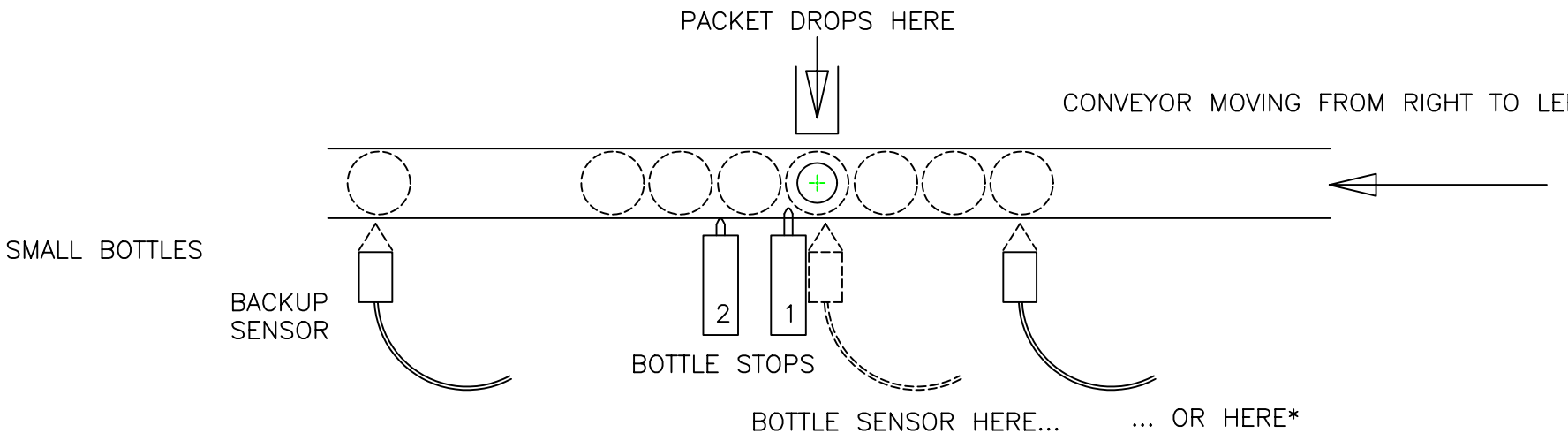
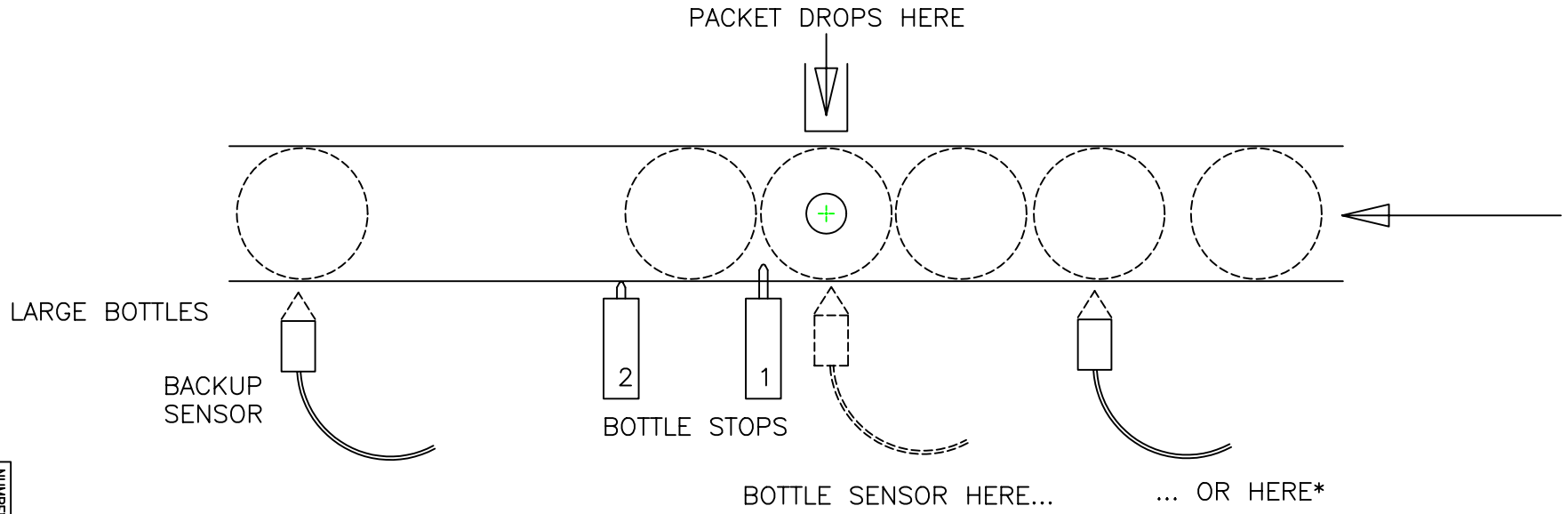
REVISION –

NUMBER: TN 0085





FOR ALL BOTTLES SIZES, THE DISTANCE BETWEEN EACH BOTTLE GATING STOP IS ALWAYS EQUAL TO ONE BOTTLE WIDTH.

*BOTTLE SENSOR MAY BE FOCUSED ON BOTTLE BEING FILLED OR ANY BOTTLE UPSTREAM

NUMBER: TN 0085

REVISION –

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

PRODUCT PS1

TITLE HOW TO SET–UP BOTTLE STOPS AND BOTTLE & BACKUP SENSORS MOVING RIGHT TO LEFT

BY SJD2 DATE: 11/11/02

SHEET 2 OF 2

NUMBER TN 0085

REVISION –

TN0092 – PS1 Roll Feed Technical Information

The supply roll of the Pharmafill PS1 Packserter is automatically advanced via a mechanism that is housed in the Supply Roll Stand. The advance action is started when the supply strip lifts the Tension Bar, which tells that PLC to begin the advance cycle.

A - Technical Explanation

The Roll Feed Air Cylinder advances the roll. When the air cylinder extends, a lever and slip clutch mechanism causes the Supply Roll Shaft to rotate, in the forward direction only. The amount of material fed from the supply roll is controlled by several elements.

1. **Roll Feed Switch** (fig. TN0092.1) - this sends a signal to an input on the PLC. The cam that activates the switch can be adjusted to vary the point at which the switch is closed. This is factory set and should not be changed, except by a qualified technician.

2. **Roll Feed Needle Valve** (fig. TN0092.2) - this limits the rate at which compressed air can enter the air cylinder. Based on the available pressure, this will set the speed at which the air cylinder will move. This is factory set and should not need to be changed, except by a qualified technician.

3. **Roll Feed Drag Bar** (fig. TN0092.3) - This bar is clamped onto the Roll Feed Shaft and provides drag to control any excess travel of the shaft due the inertia of the supply roll when it is advanced. This is factory set and should not need to be changed, except by a qualified technician.

4. **Roll Feed Time** (see Sec 5D-5) - this is a user adjustable setting. It controls the length of time that pressure will be applied to extend the air cylinder. By limiting this time, the length of stroke can be controlled. This length directly translates to degrees of rotation of the supply roll.

5. **Roll Feed Count** (see Sec 5D-6) - this is a user adjustable setting. It sets the number of strokes that will be made in one advance cycle.

B - Production Set-up

The ideal setting will require some trial and error but should only take a few minutes. Also, as the supply roll diameter decreases the amount of feed may need to be increased.

1.Set the Roll Feed Time to a low value (ex: 0.10) and the Roll Feed Count set to 1.

2. Start a test run and observe the action of the roll feed.

3. If the roll is not feeding enough material or the advance cycle is called for too often, increase the Roll Feed Time by 0.10 seconds and test again.

4. If this does not provide satisfactory results, try setting the Roll Feed Time to a middle setting (ex: 0.50), then increase the Roll Feed Count by one, and test again.

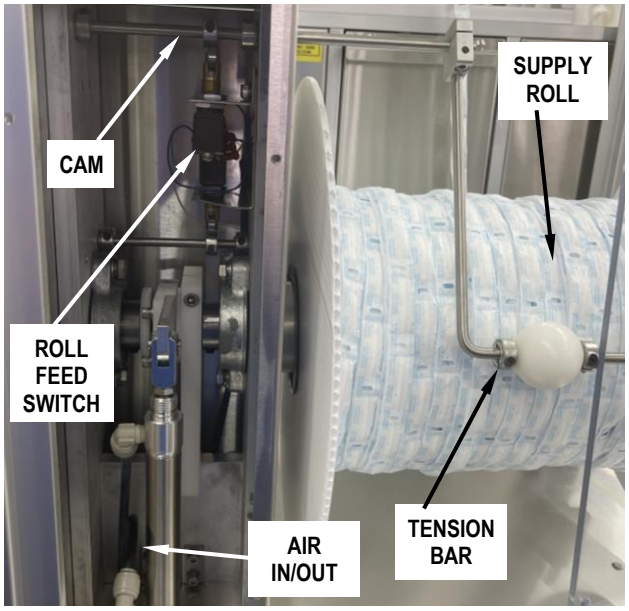


Figure TN0092.1

Figure TN0092.2

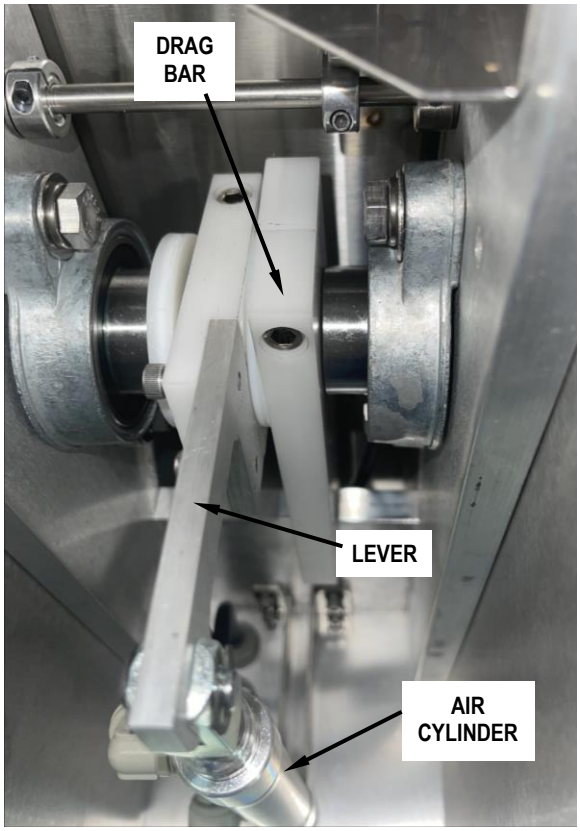


Figure TN0092.3

This tables applies to machines shipped or upgraded after January 2007. Values are approximate. Use this table as a starting point and fine-tune based on your application.

Length (inches)	Length (mm)	Offset (pulses)
0.60	15	120
0.70	18	60
0.80	20	0
0.81	21	156
0.90	23	120
1.00	25	80
1.10	28	40
1.20	30	0
1.21	31	238
1.30	33	220
1.40	36	200
1.50	38	180
1.60	41	160
1.70	43	140
1.80	46	120
1.90	48	100
2.00	51	80
2.10	53	60
2.20	56	40
2.30	58	20
2.40	60	0
2.41 and up	61 and up	480

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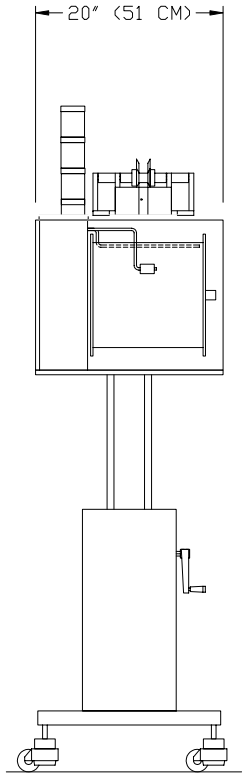
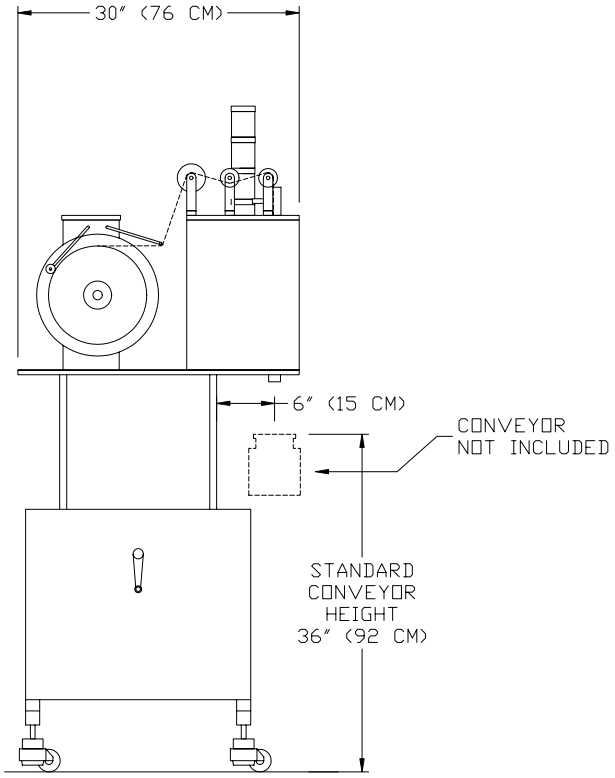
REVISION –

NUMBER: 9005–86

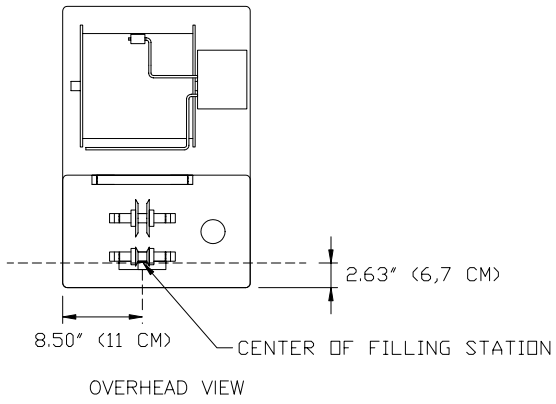
ELECTRICAL HOOKUP: 110 VAC LINE CORD, 3–PRONG GROUNDED



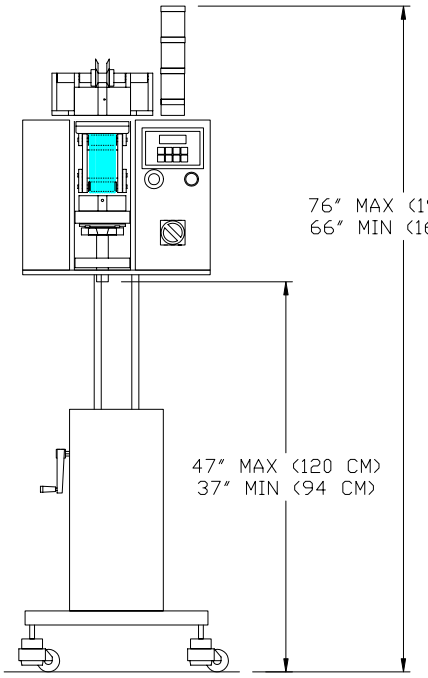
REAR VIEW



SIDE VIEW



OVERHEAD VIEW



FRONT VIEW

NUMBER: 9005–86

REVISION –

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

PRODUCT	–	BY SJD2	DATE: 2005–05–20
TITLE	MODEL PS1 PACKSERTER DIMENSIONAL DRAWING –	SHEET 1 OF 1	
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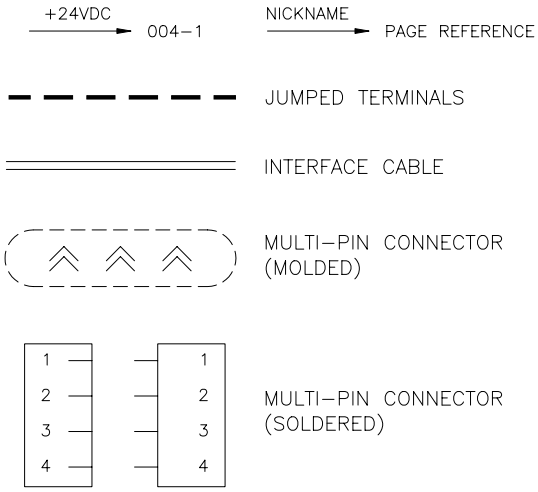
SYMBOL KEY



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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.

TECHNICAL DRAWING – PRODUCT INFO

SECTION NOTES AND REVISIONS

TITLE MODEL PS1 PACKSERTER
WIRING SCHEMATIC
SERIAL NO. 001 AND UP

BY SJD2 DATE: 2005–06–01

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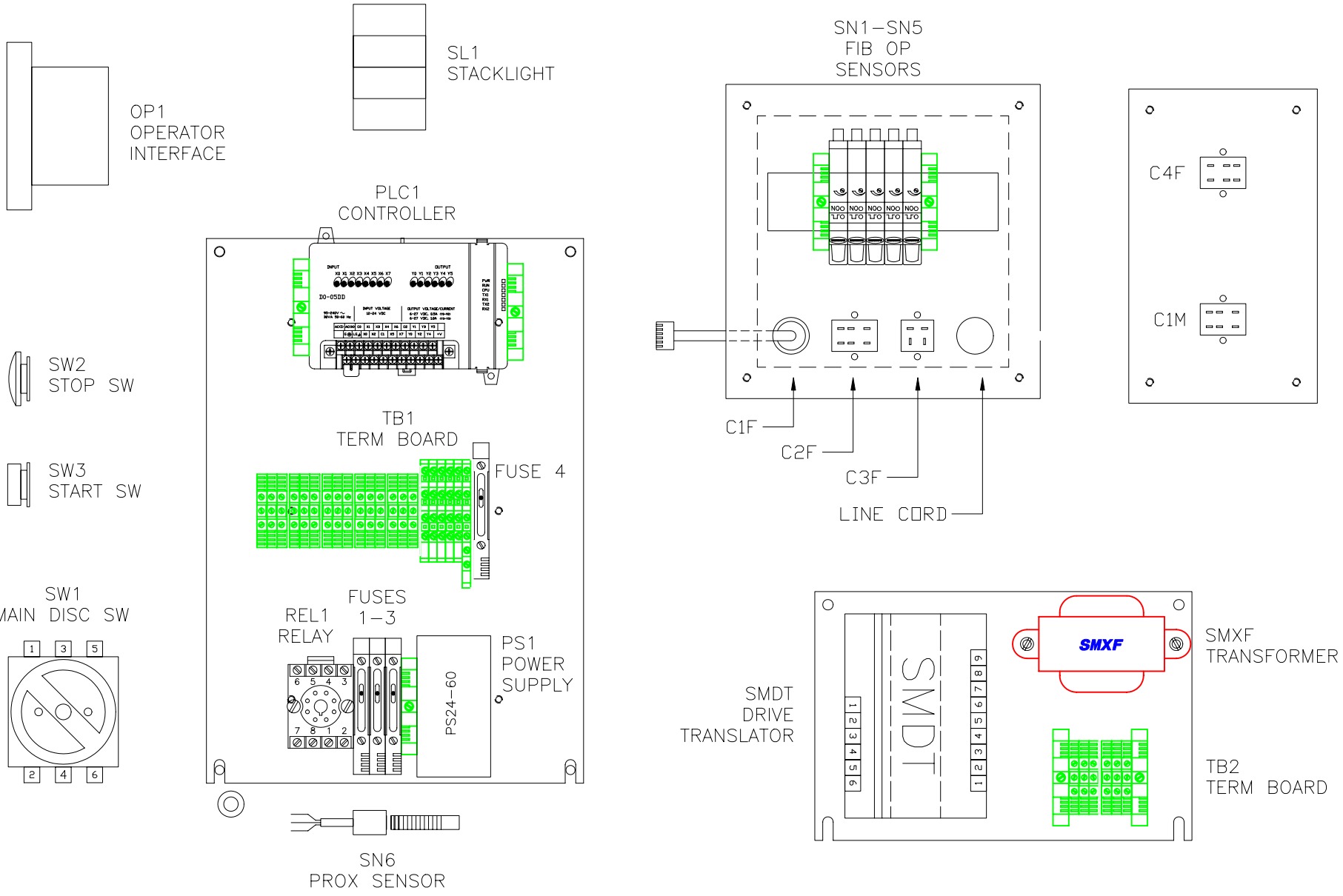

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

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TITLE MODEL PS1 PACKSERTER
WIRING SCHEMATIC
SERIAL NO. 001 AND UP

BY SJD2 DATE: 2005–06–01

SHEET 002

NUMBER SC1007

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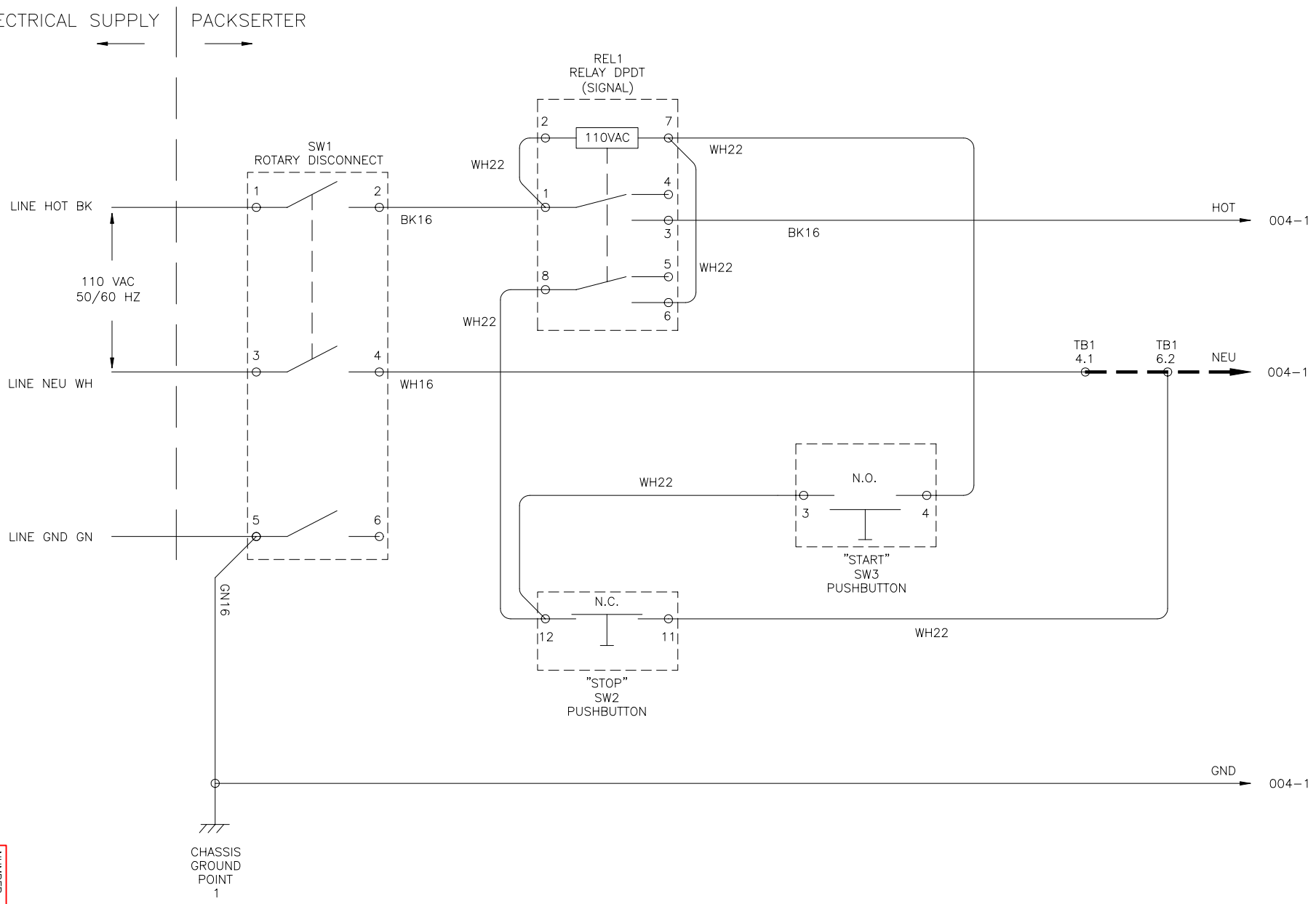

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
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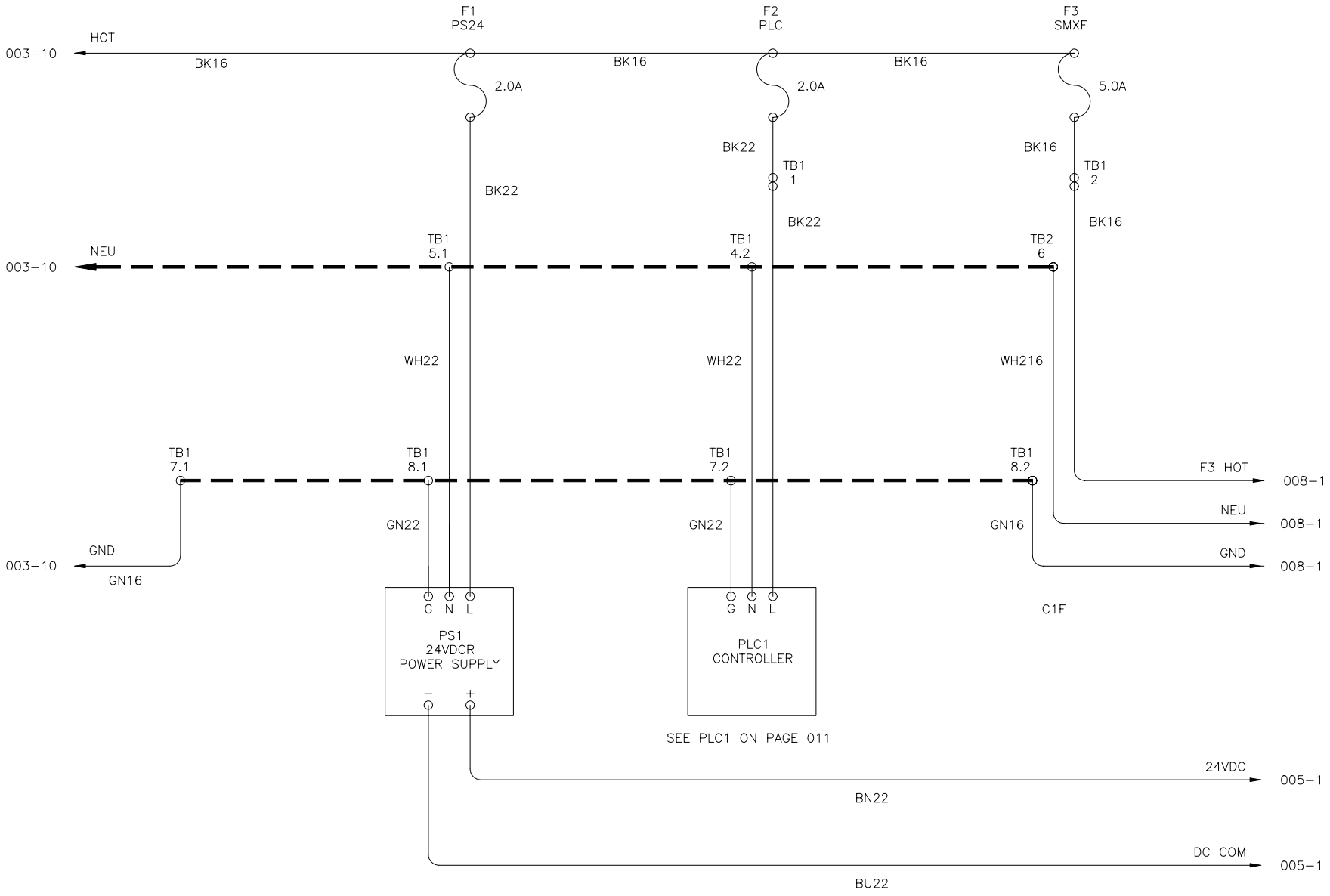
SECTION	110VAC POWER ENTRY	BY SJD2	DATE: 2005-06-01
TITLE	MODEL PS1 PACKSERTER WIRING SCHEMATIC SERIAL NO. 001 AND UP	SHEET 003	
		NUMBER SC1007	REVISION –



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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
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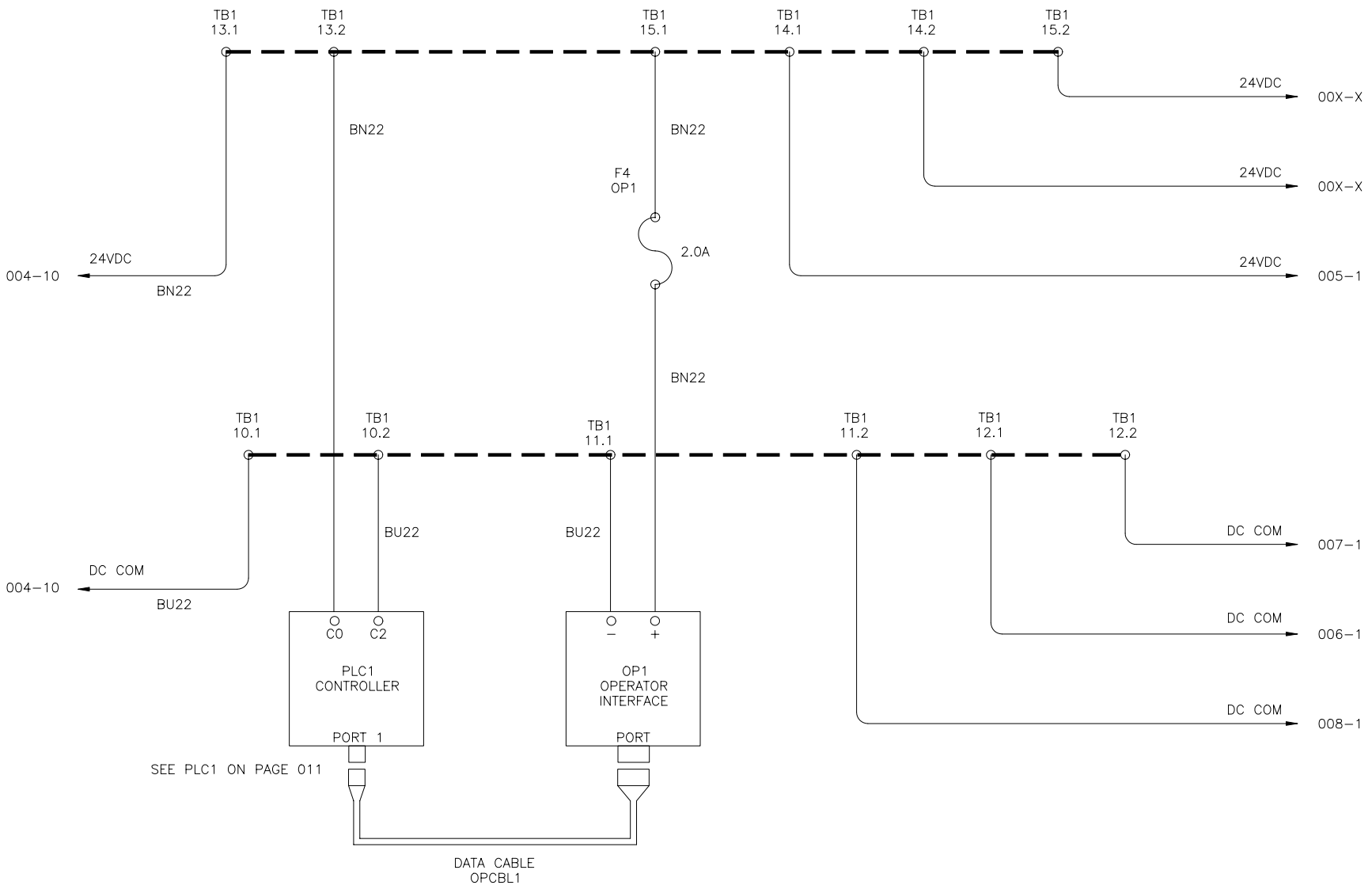
SECTION	110VAC LOADS	BY SJD2	DATE: 2005–06–01
TITLE	MODEL PS1 PACKSERTER WIRING SCHEMATIC SERIAL NO. 001 AND UP	SHEET 004	
		NUMBER SC1007	REVISION –



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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
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SECTION 24VDC DISTRIBUTION
TITLE MODEL PS1 PACKSERTER WIRING SCHEMATIC SERIAL NO. 001 AND UP

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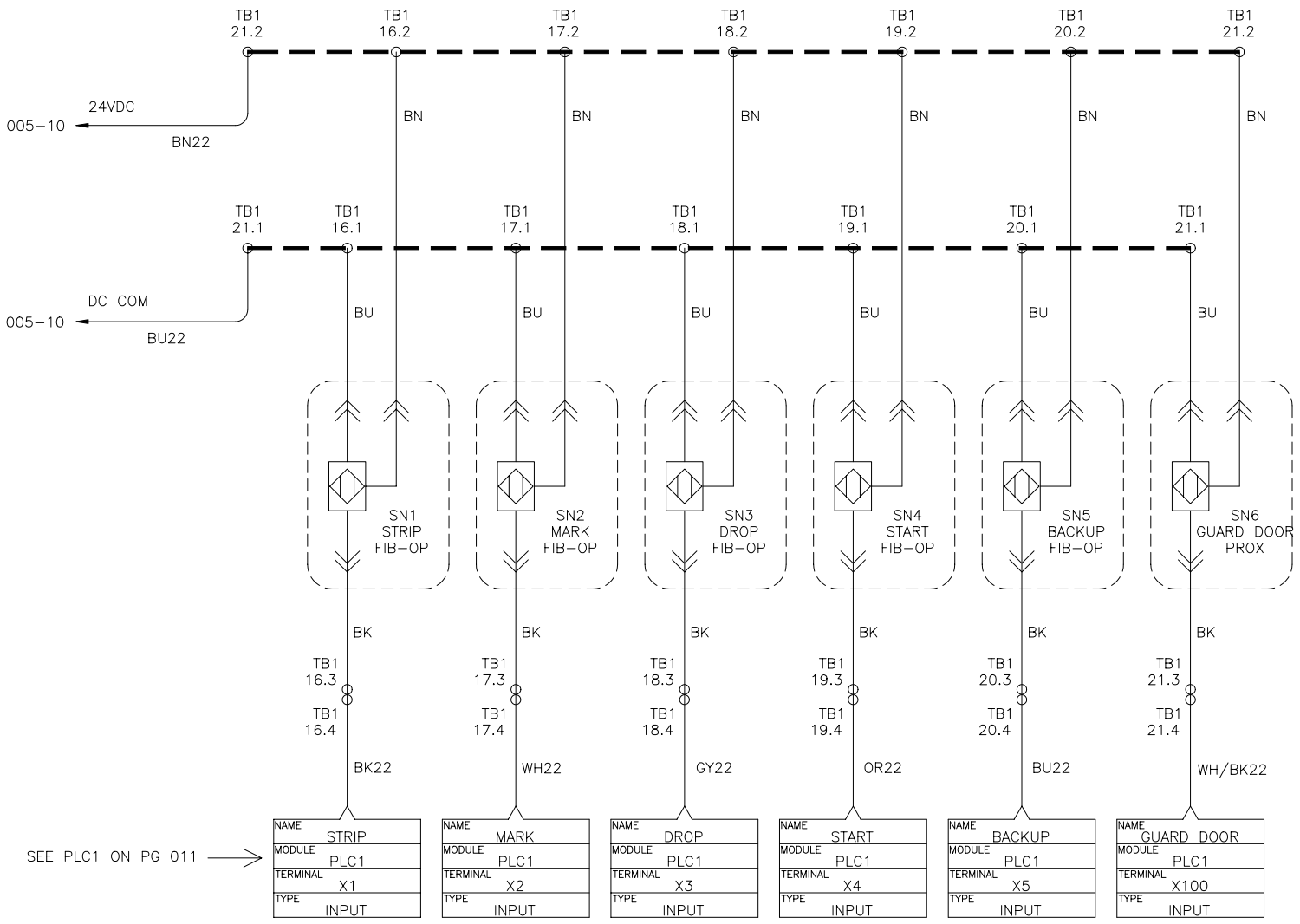

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
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SECTION INPUTS: SENSORS 1 THRU 6

TITLE MODEL PS1 PACKSERTER
WIRING SCHEMATIC
SERIAL NO. 001 AND UP

BY SJD2 DATE: 2005–06–01

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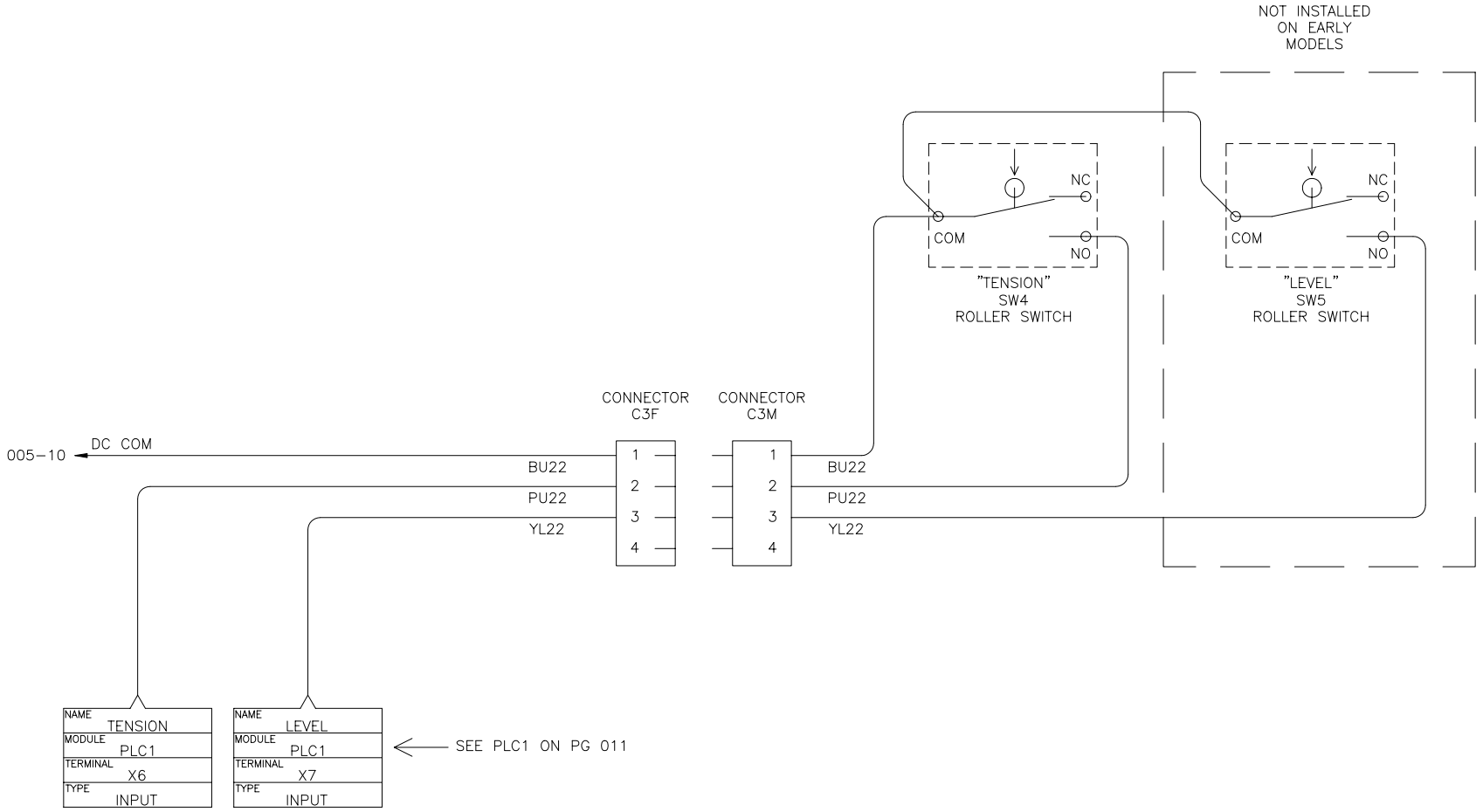

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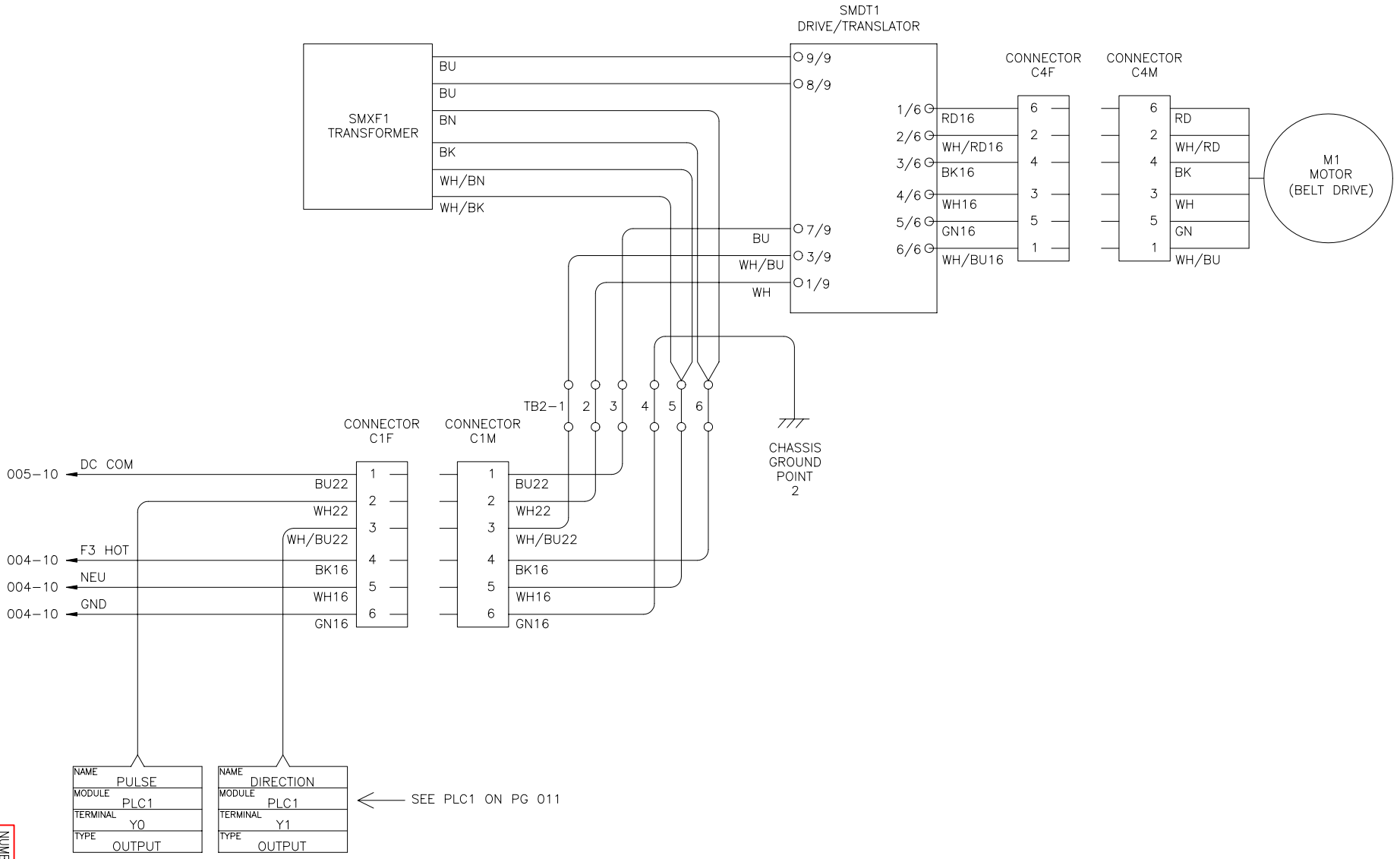
DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION	INPUTS: SWITCHES 4 & 5	BY SJD2	DATE: 2005-06-01
TITLE	MODEL PS1 PACKSERTER WIRING SCHEMATIC SERIAL NO. 001 AND UP	SHEET 007	
		NUMBER SC1007	REVISION –



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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION	STEPPER DRIVE & OUTPUTS	BY SJD2	DATE: 2005–06–01
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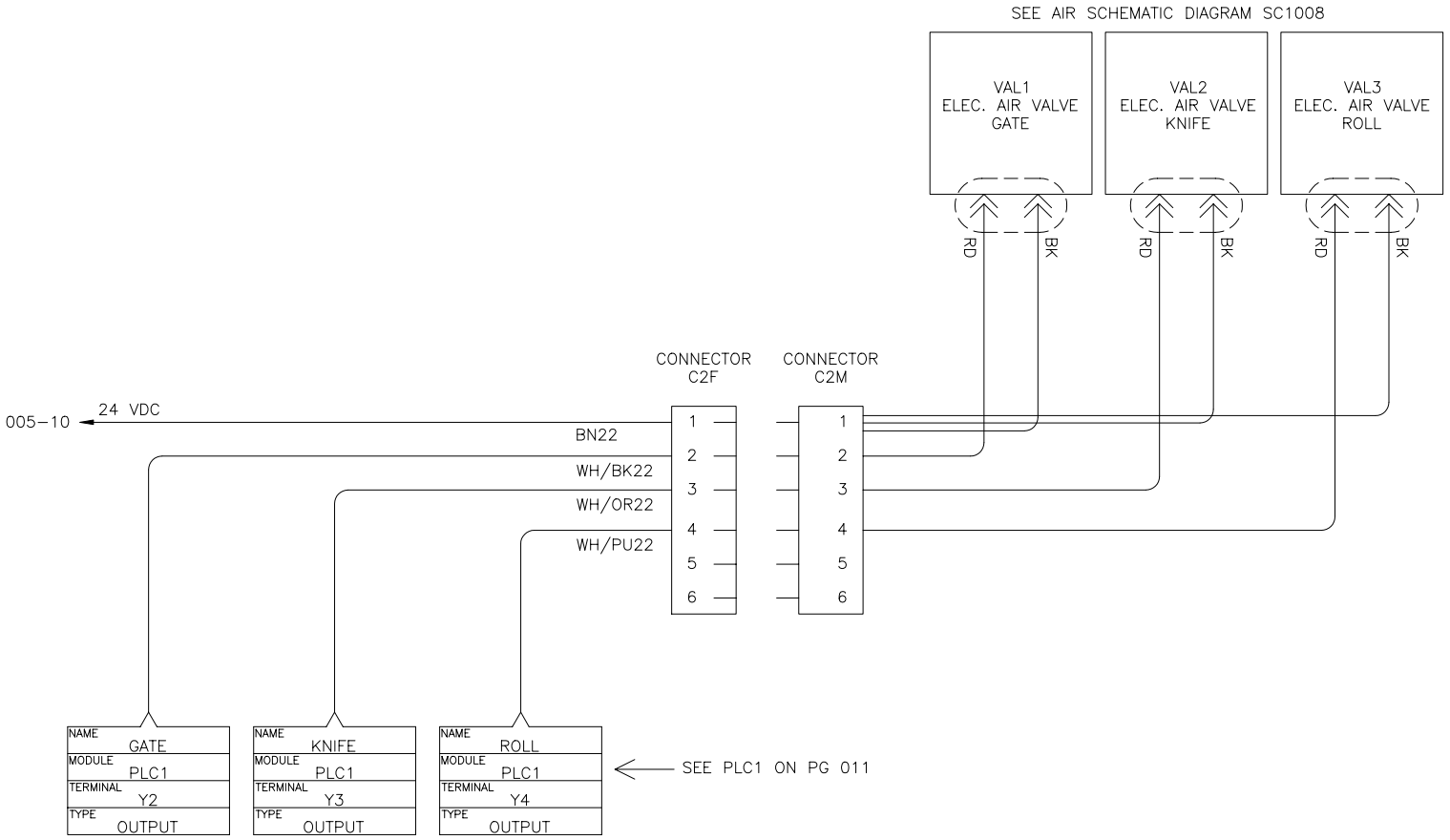

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION OUTPUTS: ELECTRIC AIR VALVES

TITLE MODEL PS1 PACKSERTER
WIRING SCHEMATIC
SERIAL NO. 001 AND UP

BY SJD2 DATE: 2005–06–01

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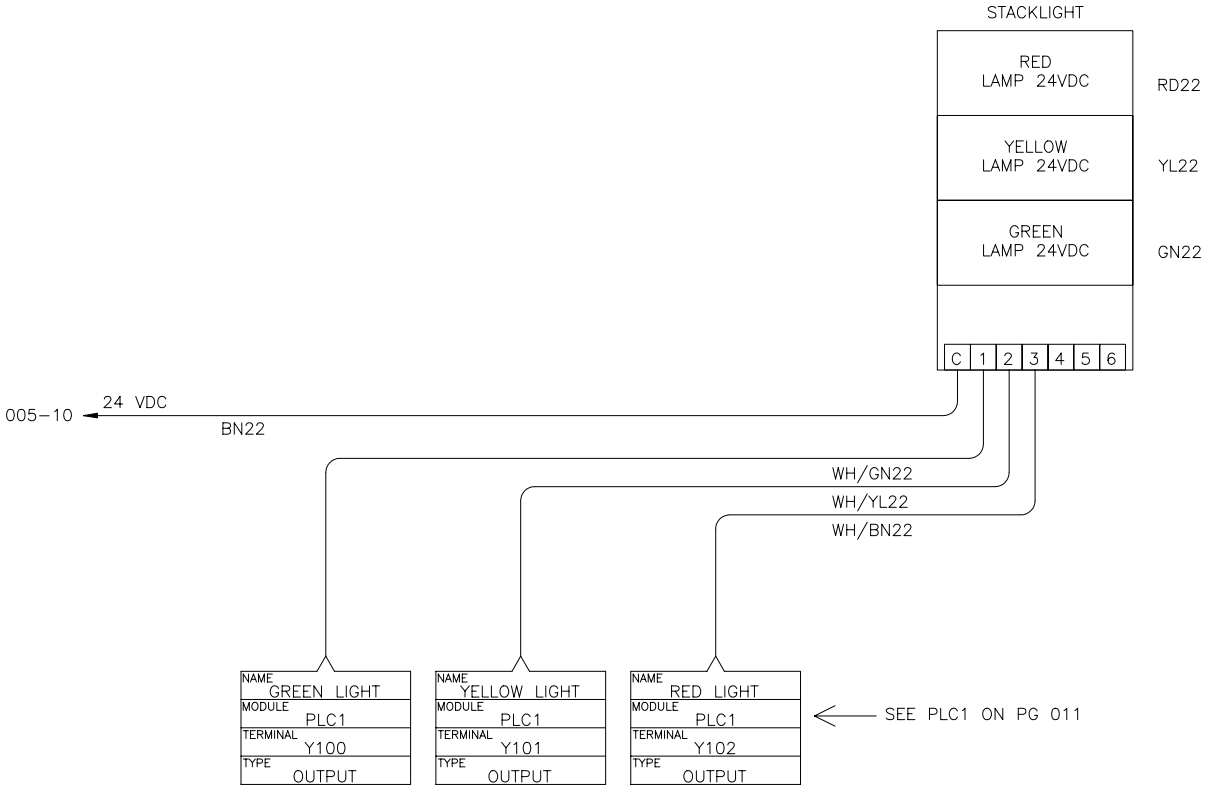

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION	OUTPUTS: STACKLIGHT	BY SJD2	DATE: 2005–06–01
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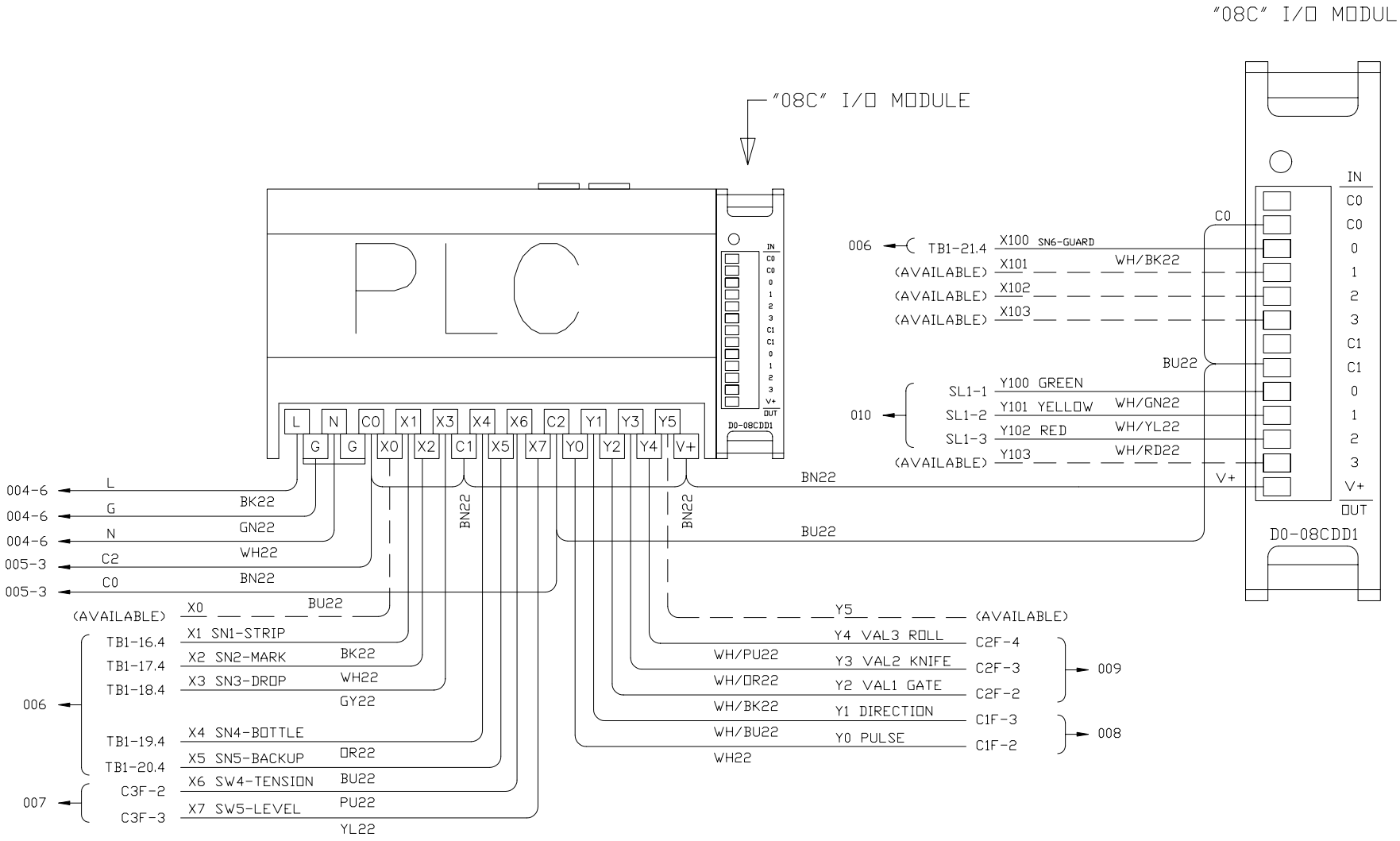

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

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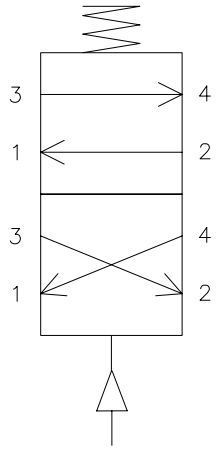

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

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TITLE	MODEL PS1 PACKSERTER AIR LINE SCHEMATIC FROM SERIAL NO. 001	SHEET	001 OF 003
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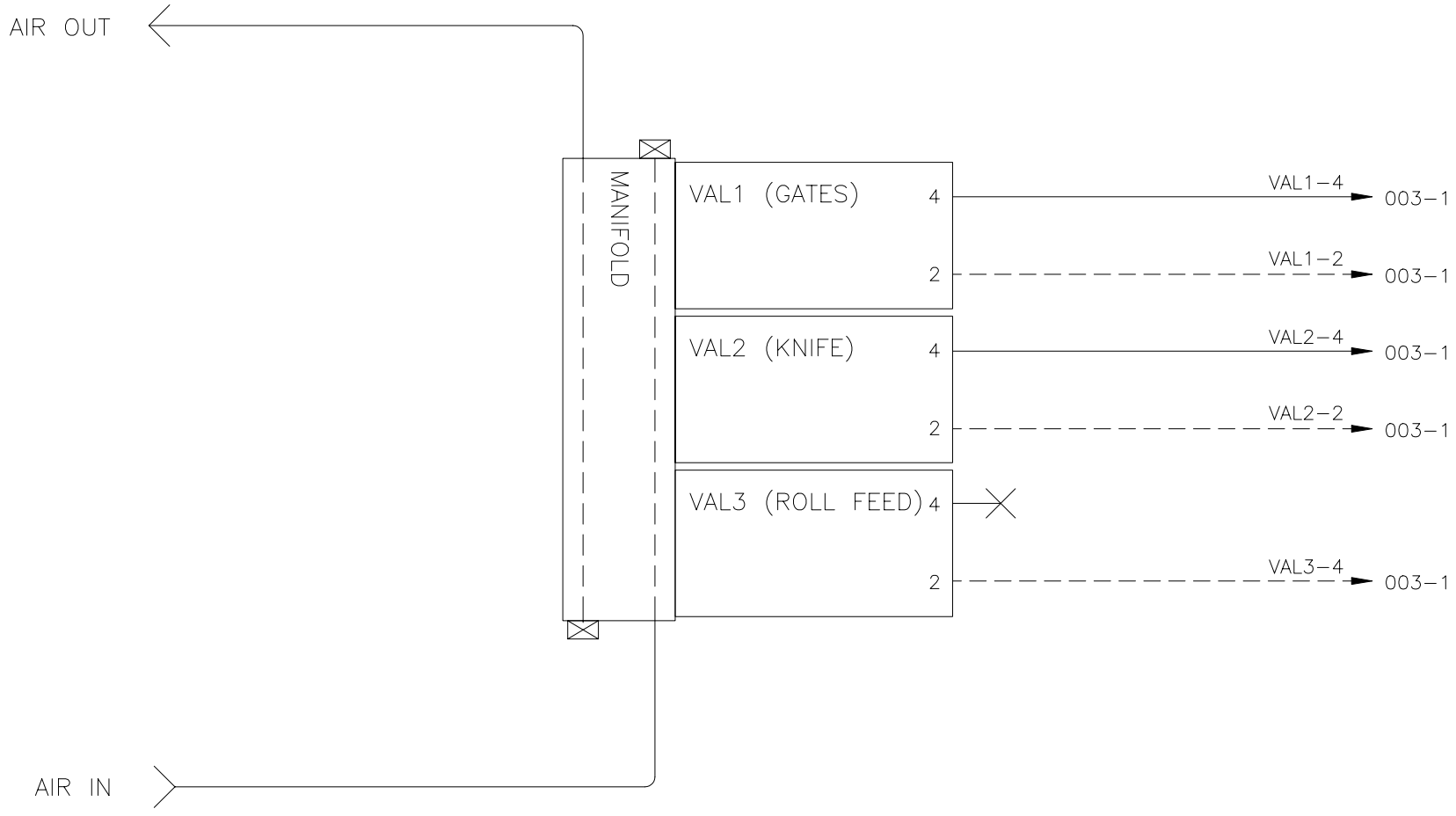

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

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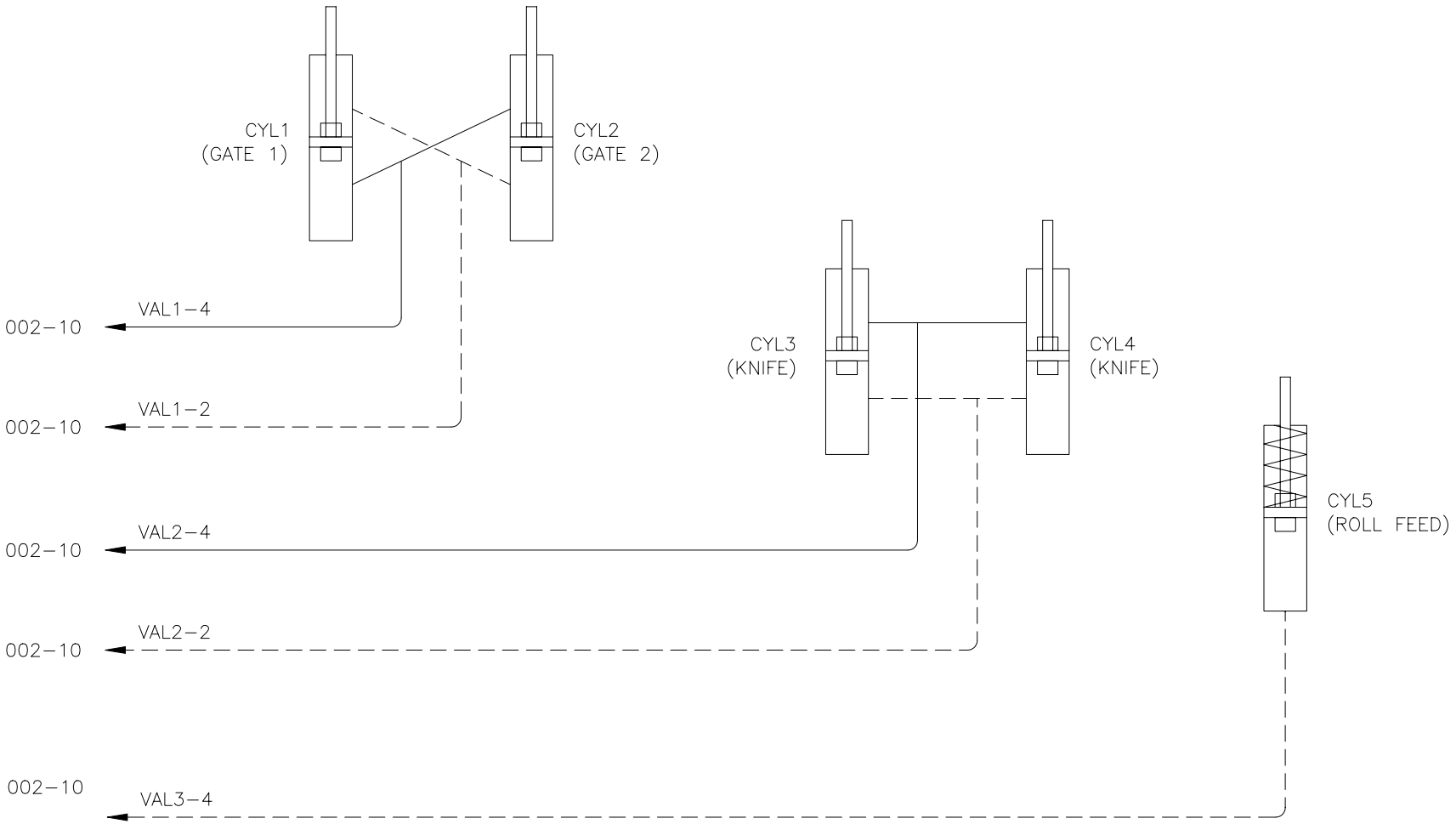

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION	AIR CYLINDERS	BY SJD2	DATE: 06–21–05
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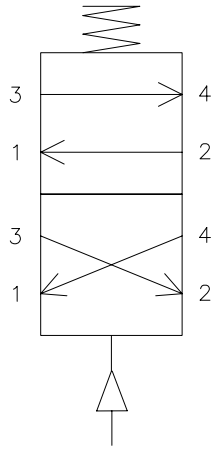
24 VDC



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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
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TITLE	MODEL PS1 PACKSERTER AIR LINE SCHEMATIC FROM SERIAL NO. 001	SHEET 001 OF 003	
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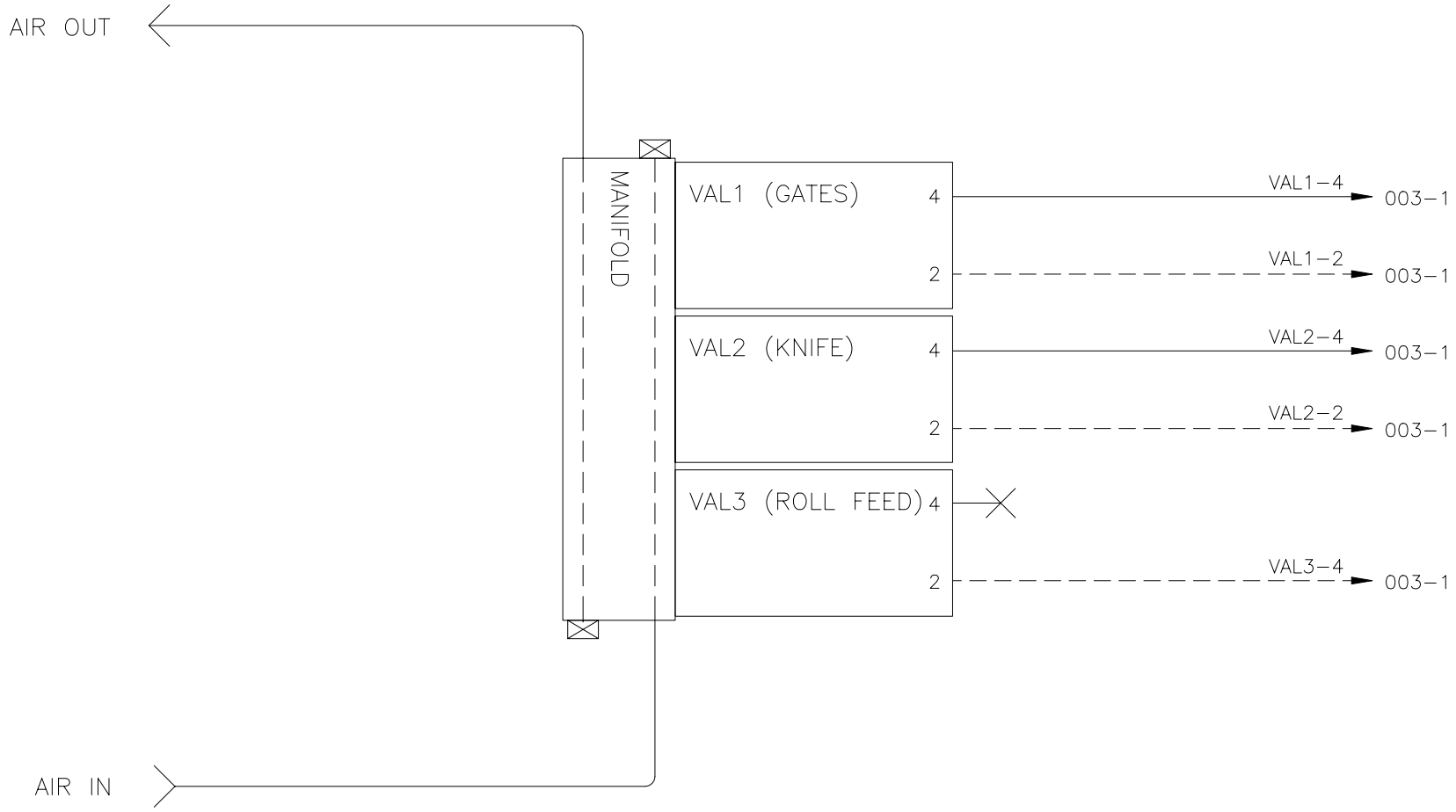

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
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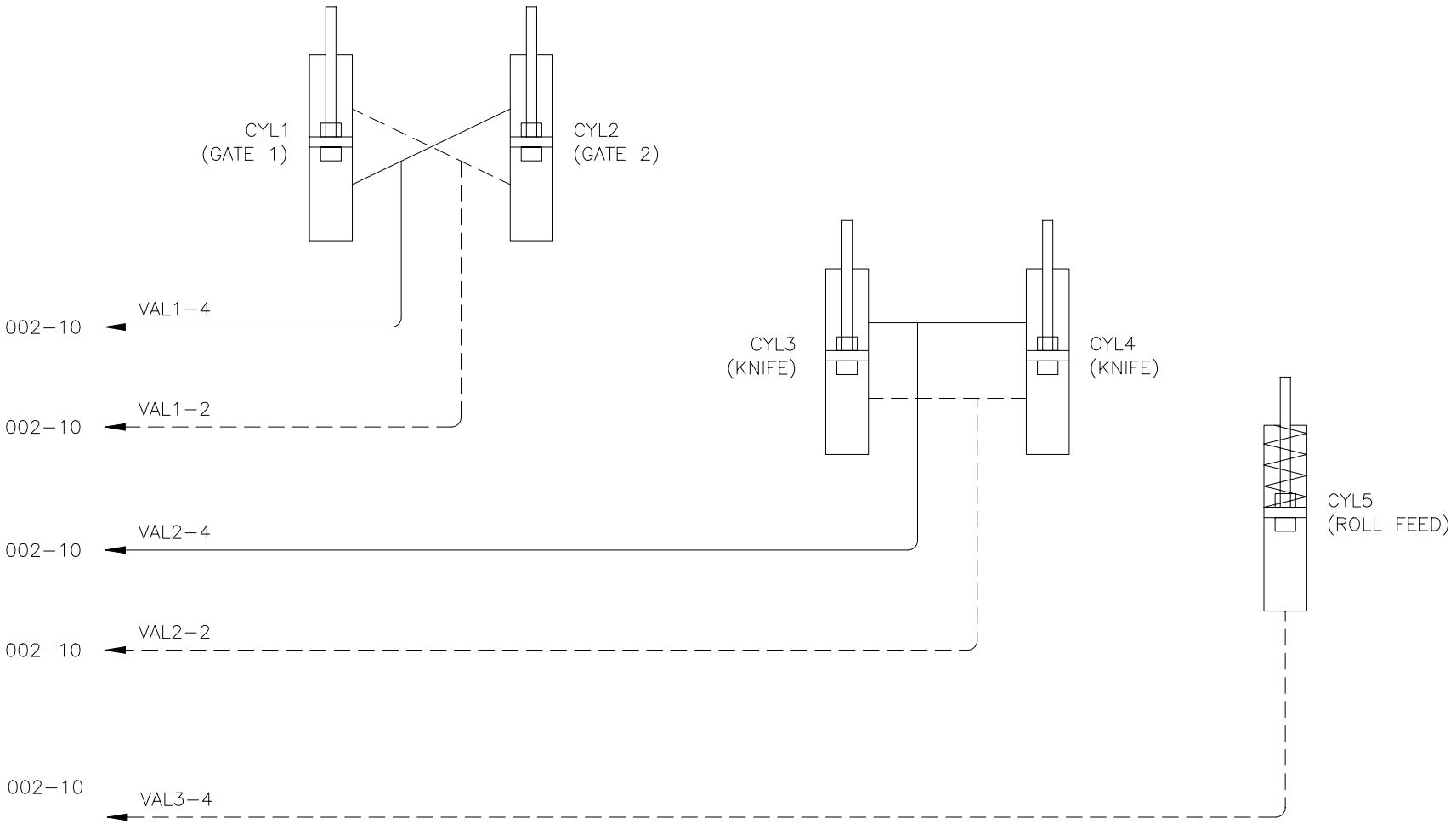

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DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
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