Kodak

ThermoFlex Narrow Hybrid

Platesetter

Installation Guide

English

731-00846B-EN Rev A

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Introduction

The Kodak® ThermoFlex® Narrow Hybrid Installation Guide describes the process of unpacking. installing, adjusting, and testing a ThermoFlex Narrow Hybrid platesetter at a customer site.

The ThermoFlex Narrow Hybrid platesetter's loading and unloading are performed from the same side of the platesetter. From the loading/unloading side, the orientation of the internal assemblies is similar to the *rear* (unloading) side of the Magnus® 400 device.

The ThermoFlex Narrow Hybrid Installation Guide applies to all ThermoFlex Narrow Hybrid devices and options (such as Magnetic Drum and Offset).

Prerequisites

- **Site preparation**: The site is ready according to the *ThermoFlex* Narrow Hybrid Site Preparation Guidelines. For your convenience, the power- and connections-related prerequisites can also be found in *Connecting the External Components and Power* on page 10.
- **Temperature**: (In unpacking area) 0°–30°C (32°–86°F).
- **Humidity**: 55% ±5% RH, non-condensing
- **Shipping container**: Undamaged.

  Important: If the container is damaged in any way, notify the shipping agent immediately.

- **Site size**: Allows easy maneuvering of the platesetter. See *Product and Shipping Container Dimensions* on page 30.
  - ❒ There is space for the forklift to lower the platesetter from the shipping pallet.
  - ❒ The doorway clearance is adequate for the platesetter and forklift.
- **Tools**:
  - ❒ **Forklift**: (For unpacking)
  - ❒ **5/16" hex key**: To remove shipping safeguards
- **Two service personnel**: For unpacking

Unpacking the Platesetter

Before unpacking the platesetter, ensure that the conditions in *Prerequisites* on page 1 are met.



WARNING: Do not unpack the platesetter if these conditions are not met.

Throughout the unpacking process, handle all packing material with care. You will need these materials again if you need to transport the platesetter in the future.

The unpacking process is shown in Figure 1 on page 3. The numbers in the instructions below refer to the item numbers shown in Figure 1.

1. Use the forklift to lift the shipping container and place it at the unpacking site.

   Note: Lift the container only from the side indicated on the label on the container.

2. Carefully cut the two steel bands [1] surrounding the carton [2].
3. Open the top flaps of the carton [2].
4. Remove the staples that secure the carton [2] to the shipping pallet [7] and to the support struts [5].
5. Remove the entire carton [2].
6. Remove all the parts that are tied to the shipping pallet at the rear of the platesetter.
7. Remove the top support struts [3] and the side support struts [5].

Important: If there are any signs of ice on the platesetter, do not touch any of the mechanical parts. Wait at least 24 hours (preferably 48 hours) for the platesetter to gradually reach room temperature.

8. The platesetter is secured to the shipping pallet with four screws, brackets and washers [8]. Remove the screws, brackets and washers from underneath the shipping pallet.
9. Using the forklift, lift the platesetter from the shipping pallet. Make sure to lift the platesetter *only* at the designated locations, marked on the pallet frame.
10. Lower the platesetter from the shipping pallet.
11. Remove the nylon wrapping from the platesetter.

    Note: When you cut off the nylon wrapping, be careful not to scratch the platesetter.

12. To move the platesetter, lift its legs so that the platesetter can be rolled on its wheels, and then close the nut on each leg by turning it counterclockwise.
13. Roll the platesetter to its final location.
14. Lower the four legs of the platesetter by turning the nut on each leg clockwise.

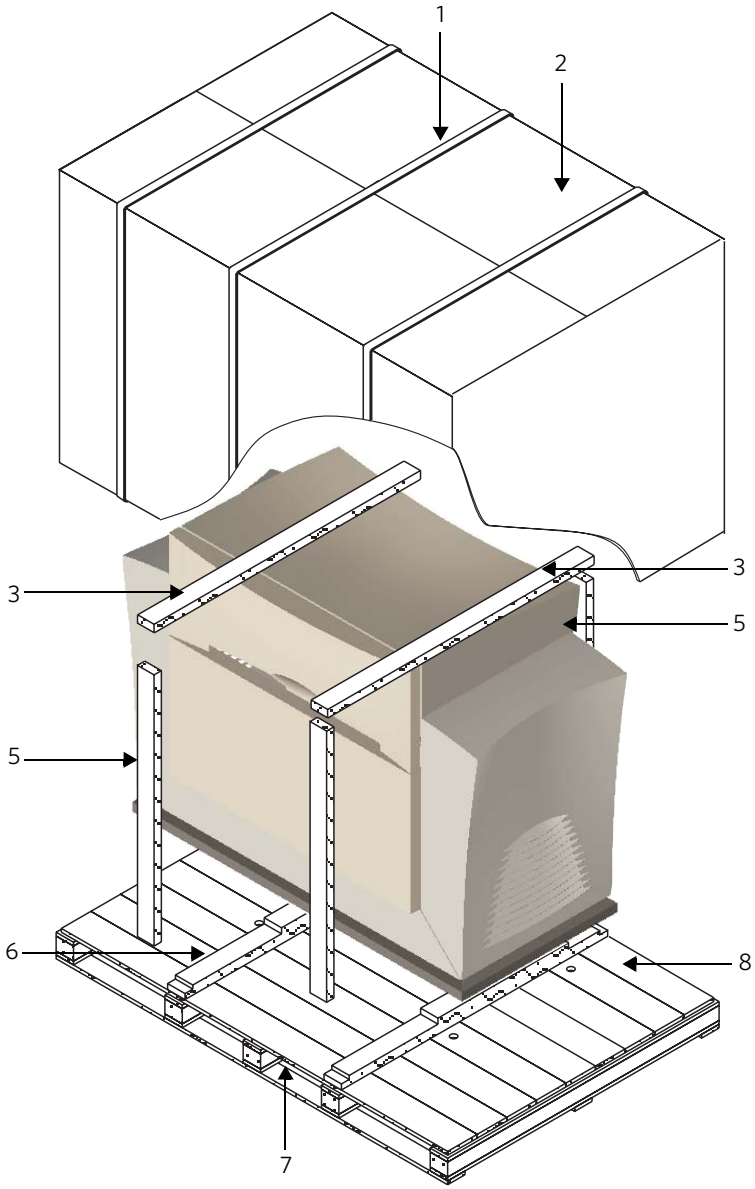


Figure 1: Unpacking the platesetter

Checking the Parts

- Check the *GCL* forms attached to the platesetter packaging to confirm that all the parts have arrived.

Removing Shipping Safeguards

The platesetter is shipped with safeguards that prevent excessive movement of internal parts during transport. The safeguards are red for easy identification, as shown:

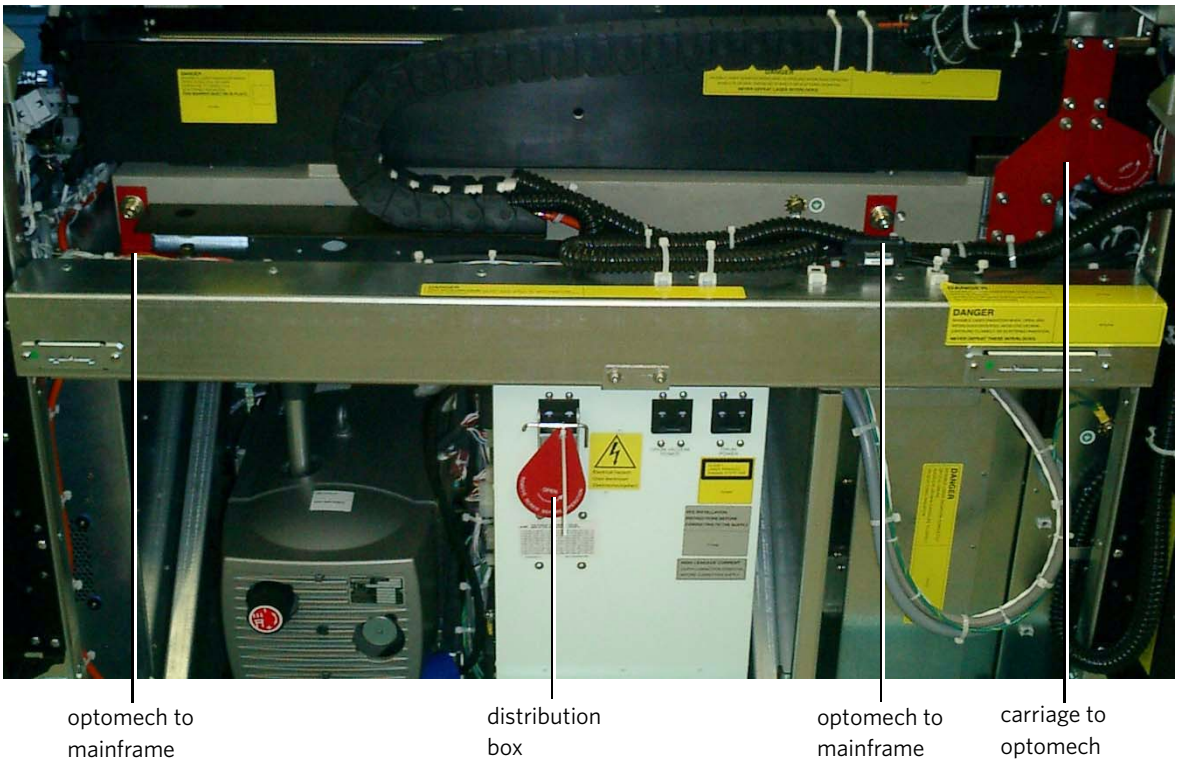


Figure 2: Safeguards seen from the front of the platesetter

Accessing Shipping Safeguards:

1. To open the top door, insert a screwdriver or hex key into the holes on the front panel to release the locking mechanism pins.



Figure 3: Top door manual opening location

2. To open each side door, press the switch.

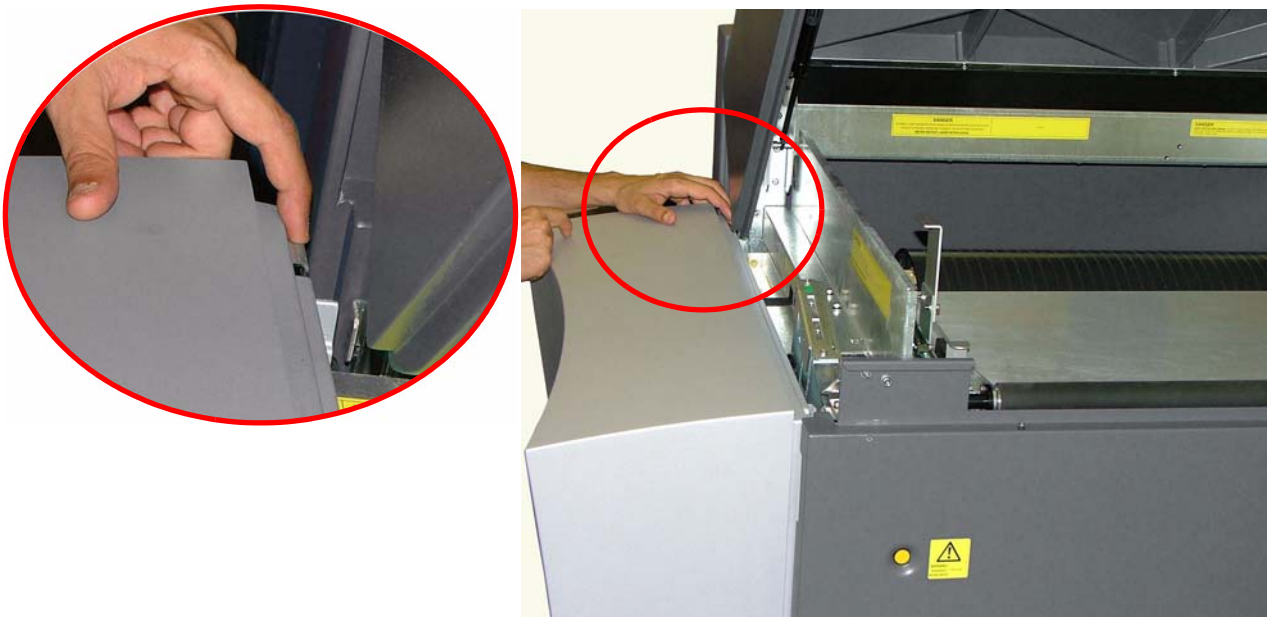


Figure 4: Side door opening location

3. Open the front panel.

Removing Safeguards

Table 1: Safeguard types and locations

Assembly	Qty	Location
Optomech	4	2 in front of the optomech 2 in back of the optomech
Carriage	2	1 in front of the carriage 1 in back of the carriage
Distribution box	1	In front of the distribution box
Roller handle for Offset option	1	At the top left of the loading/ unloading tray

Shipping safeguards are secured with hex screws. To remove the safeguards, remove the hexscrew(s) and then remove the shipping safeguard.

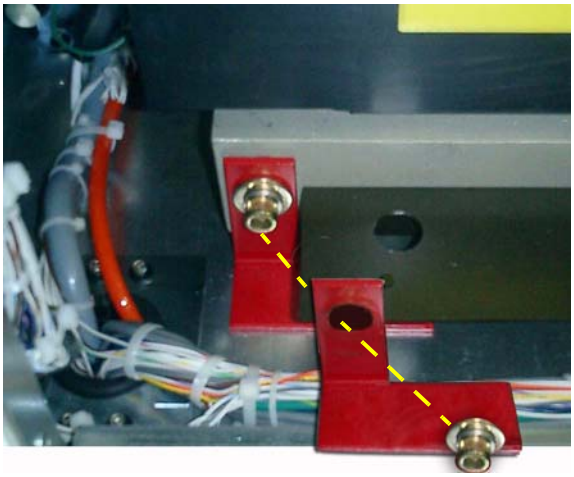


Figure 5: Removing a shipping safeguard

Note: Use a 5/16" hex key to remove the screws from the locking devices.

1. Loosen the hex screws and remove the four safeguards that secure the optomech assembly to the mainframe.

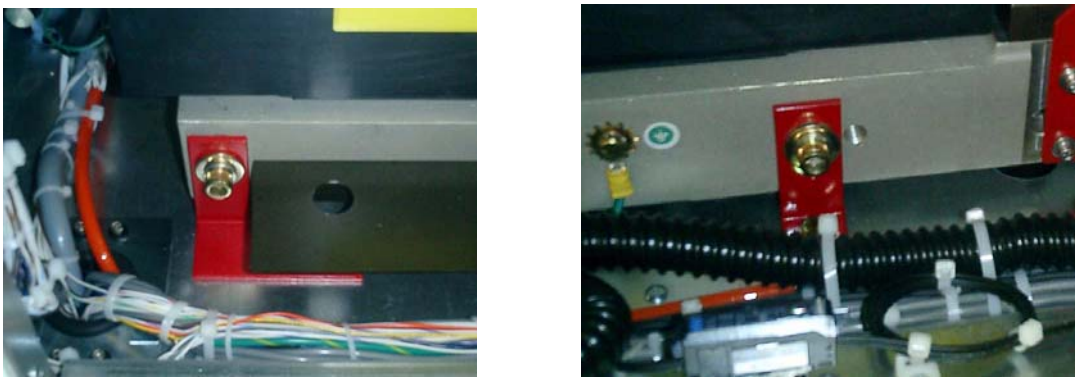


Figure 6: Front optomech-to-mainframe safeguards

2. Loosen the hex screws and remove the two safeguards that secure to carriage to the optomech assembly.

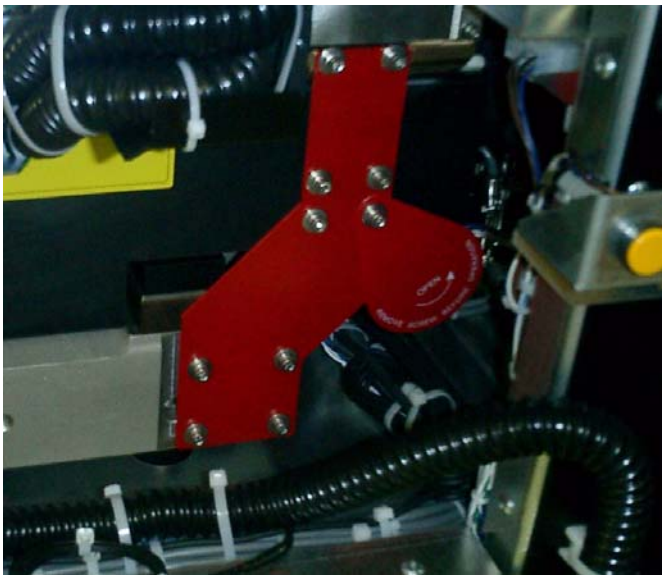
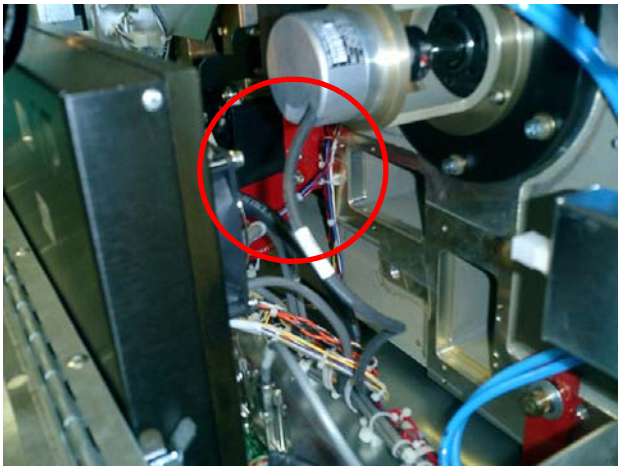


Figure 7: Front carriage-to-optomech safeguard





Remove the six hex screws and remove the safeguard

Figure 8: Back carriage-to-optomech safeguard

3. Loosen the hex screws and remove the safeguard that secures the distribution box.



Figure 9: Distribution box safeguard

4. If your configuration includes the offset option, remove the safeguard that secures the roller handle.
5. After removing the safeguards, visually inspect the components inside the machine to confirm that they are undamaged.

Leveling the Platesetter

Level the platesetter to help ensure smooth plate loading.

Before you level the platesetter, verify that the following conditions exist:

- There is room for all doors to open completely
- You can access the laser box and other internal components for maintenance work
- There is adequate room for the UDRC

To level the platesetter:

1. Place a standard leveling instrument on the main frame side door, and verify that the front and rear of the platesetter are level.
2. If the front and rear are not level, adjust the rear legs. Turn the adjusting nut of one of the rear legs clockwise to increase height, or counterclockwise to reduce height, as required.

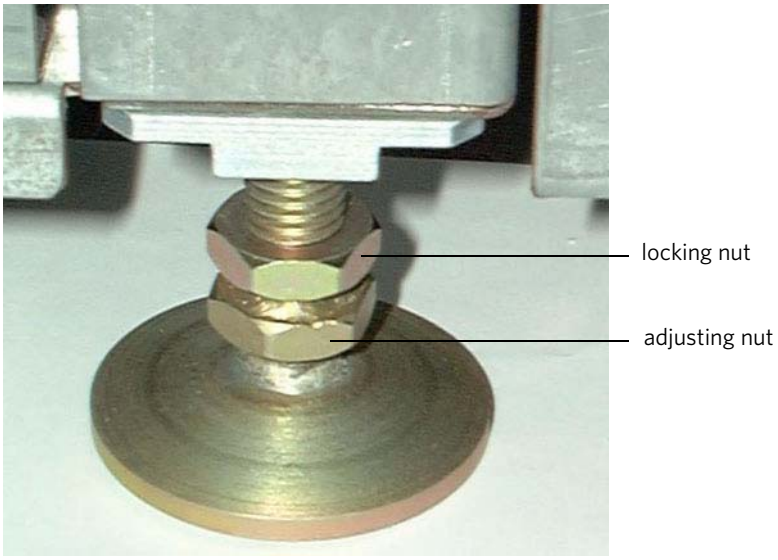


Figure 10: Adjusting leg height

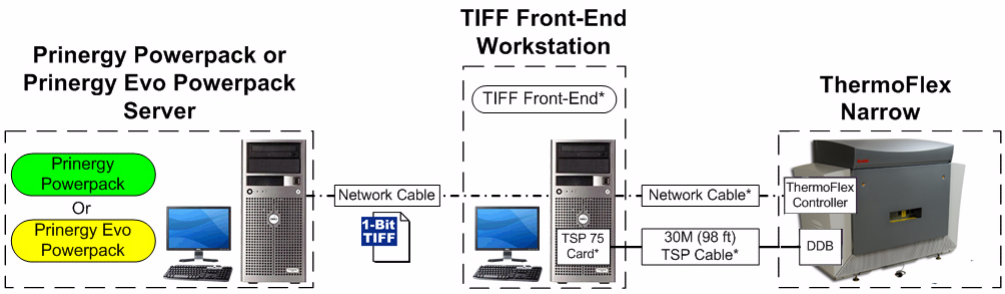
3. After the platesetter is properly leveled, tighten the locking nut on all four legs.

Checking Safety Labels

Verify that the safety labels in the relevant language are in place on the device. If the safety labels are not in place on the device, stick on the labels in the relevant language, as described in the *ThermoFlex Narrow and Mid II Hybrid Safety Guidelines* (731-01196A-EN).

Connecting the External Components and Power

Before connecting the platesetter to its external components and to the power supply, ensure that your site meets the electrical requirements described in the ThermoFlex Narrow Hybrid Site Preparation Guidelines and verify that all voltage settings, fuses and cords fully comply with local standards.



Connecting the Foot Pedal

1. Take out the foot pedal and place it on the floor.
2. Connect the foot pedal cable, as shown.

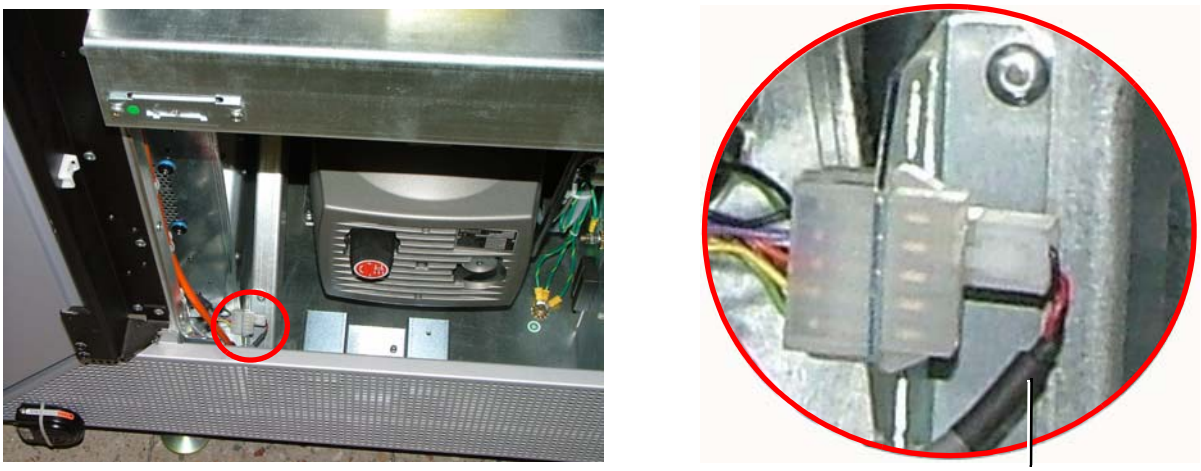


Figure 11: Foot pedal connection

3. Route the pedal cable under the left side door and close the door.



Figure 12: Foot pedal connected

Connecting the Monitor, Keyboard, and Mouse

1. Place the ThermoFlex monitor, keyboard, and mouse on the designated monitor table.

   Note: The connections described following are shown in Figure 13. The red lines indicate the connections that are performed during this installation.

2. Connect the keyboard and mouse to the split connector, and then connect the split connector to the E-box.
3. Connect the ThermoFlex monitor to the E-box.
4. Connect the main power cable of the ThermoFlex monitor to the wall socket.

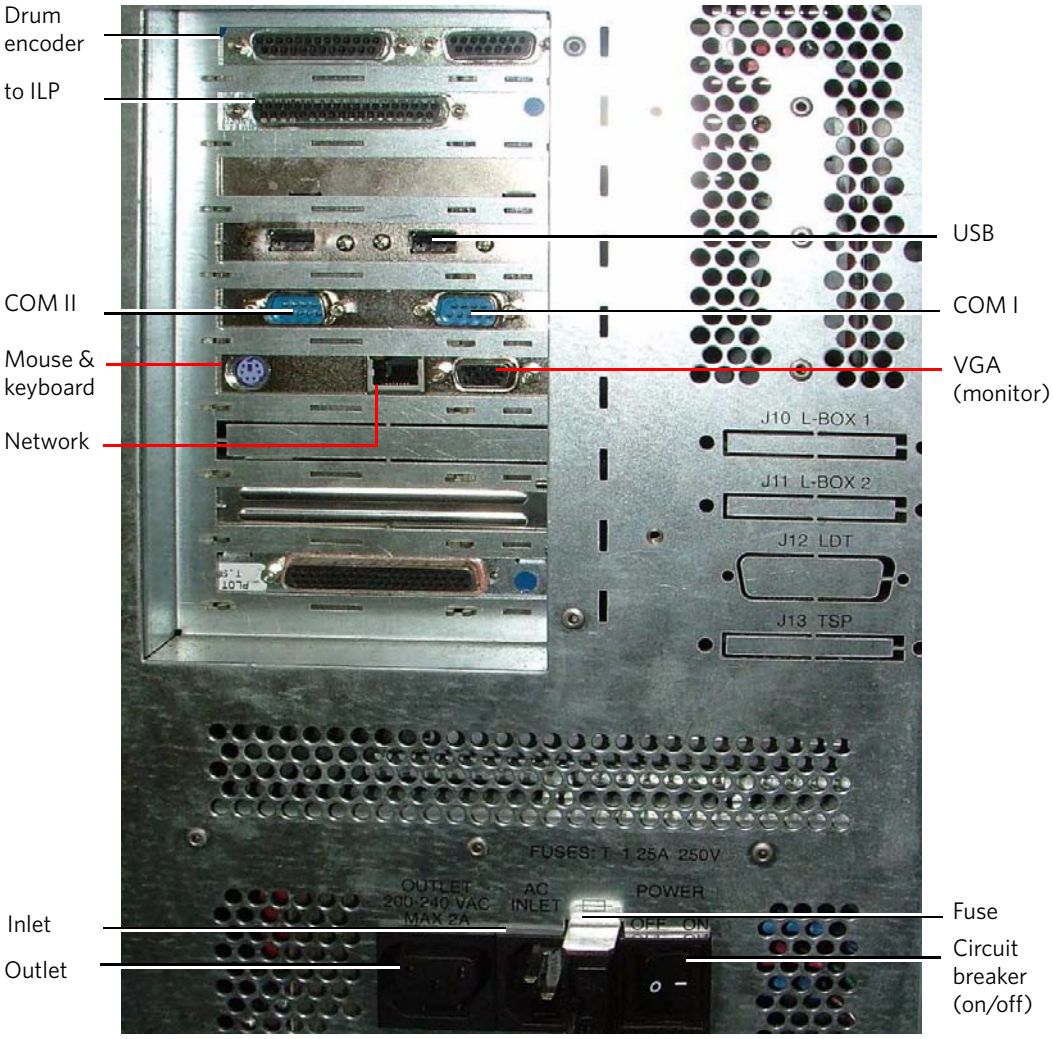


Figure 13: E-box connections

Connecting the UDRC

The ThermoFlex Narrow Hybrid platesetter is connected to one of the following Universal Debris Removal Cabinet (UDRC) options:

- UDRC BF—particulate and chemical filters
- UDRC BP—particulate filter

  Note: The UDRC BP must have external venting. See Step 4, following.

To connect the UDRC to the platesetter:

1. Position the UDRC as close to the rear of the platesetter as possible.
2. Connect one end of the vacuum hose to the adaptor, and connect the other end of the vacuum hose to the hose extension on the back of the UDRC.

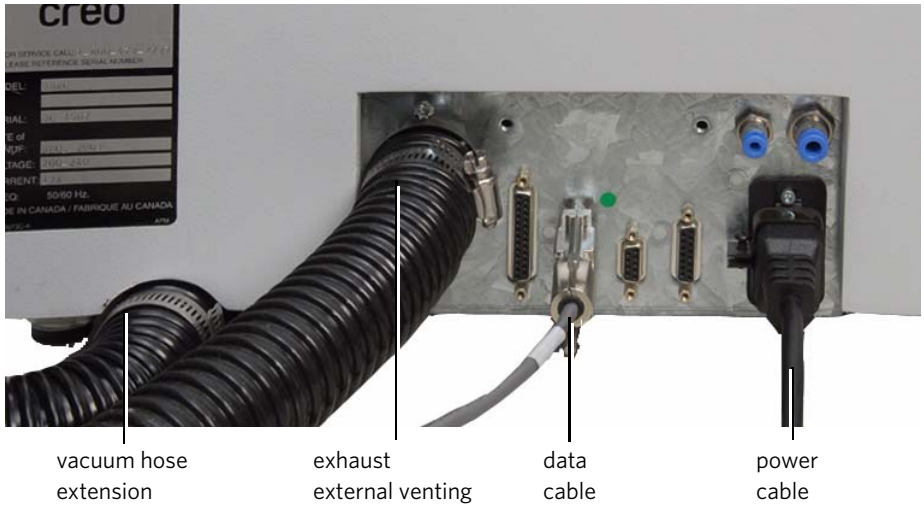


Figure 14: UDRC connections

3. Connect one end of the data cable to the port on the back of the UDRC, as shown in Figure 14 on page 13, and connect the other end of the data cable to the platesetter, as shown.

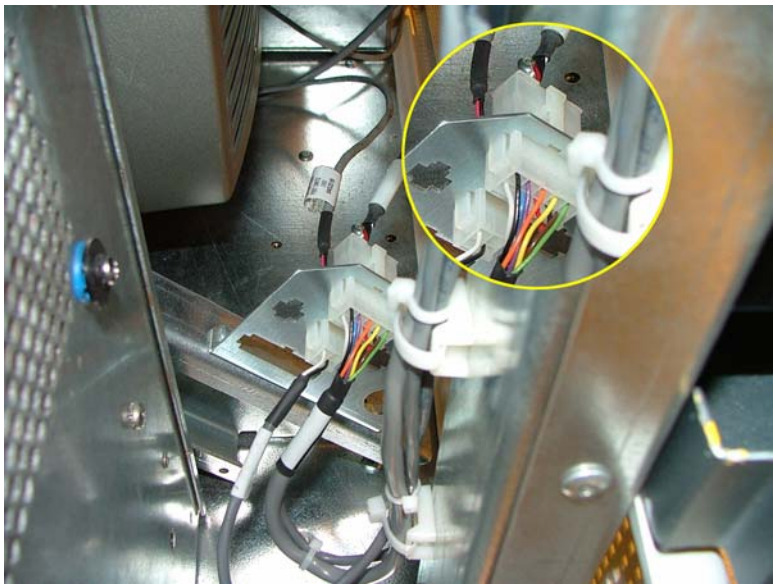


Figure 15: UDRC data cable connector

4. If the configuration is UDRC BP, connect the exhaust tube from the UDRC to the exhaust system. (For more information, see the *UDRC Site Preparation Guide*.)
5. Connect the power cable from the outlet on the UDRC to the power outlet on the wall.

Connecting the Air Pressure Regulator

Note: If you are installing the ThermoFlex Narrow Hybrid S300 platesetter (with Omron interlocks), proceed to *Setting Up Data Connectivity* on page 17.

1. Connect the 5 M orange air pressure tube (supplied with the platesetter) to the air plug near the cable opening at the lower rear panel and side door of the platesetter.



Figure 16: Air pressure tube connection

2. Carefully pull the air pressure tube through the cable opening. Make sure the tube does not crack as it is routed out of the platesetter.
3. Connect the other end of the air pressure tube to the air pressure regulator next to the gauge, as shown in Figure 17.



Figure 17: Air pressure regulator connections

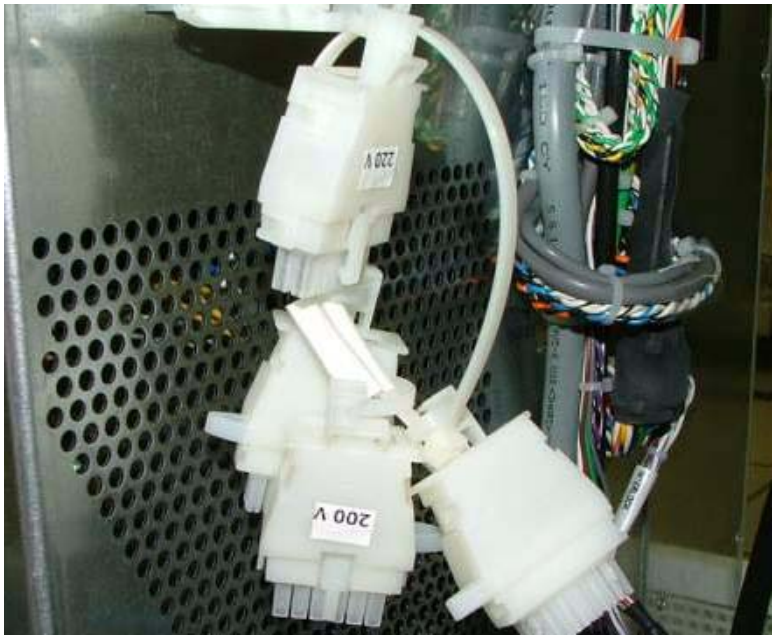
Note: There are three different types of air pressure regulators. Figure 17 shows one of the three.

4. Connect the air pressure regulator, shown in Figure 17, to the air pressure outlet on the wall.
5. Set the gauge to 6 ATM (90 psi).

Connecting the Platesetter to the AC Mains Power Supply

Note: If you are installing the ThermoFlex Narrow Hybrid S300 platesetter (with Omron interlocks), proceed to *Setting Up Data Connectivity* on page 17.

1. On the distribution box, locate the main power cable and pull it out through the cable opening in the rear of the platesetter.
2. Using a digital voltmeter (DVM), measure the actual line voltage.
3. According to the line voltage, select the correct dongle to be used on the distribution box.



Note: If the actual measured voltage is between two values that appear on the distribution box, round the value upward.

4. Plug in the main power cable.
5. Turn on the platesetter.

Setting Up Data Connectivity

To ensure that the platesetter can communicate with the workflow system, you must take the following steps, described in this section:

- Connect the TSP cable for data transfer
- Set up the TCP/IP link for communication between the ThermoFlex Controller and the workflow solution workstation

To connect the TSP cable:

1. Verify that the platesetter is turned off.
2. Connect the TSP cable to the TSP board on the workstation.
3. Connect the other end of the TSP cable to the DDB board on the L-box.

Setting Up the TCP/IP Connection

➢ Connect both the workflow solution workstation and the platesetter to the site's network infrastructure.

❒ Verify that the workflow solution workstation is connected to the network via the fast ethernet board in slot 2.

❒ Connect the network port in the E-box to the communication network switching hub.

Note: Do not to use the point-to-point connection method (connecting the workflow solution workstation directly to the *ThermoFlex* platesetter) because it does not enable remote support.

Checking the Installation

After installing the platesetter, perform the following tests to confirm that the platesetter is installed properly:

- Confirm that the lens protector is clean. You may need to use a mirror and flashlight to check the lens protector.
- Confirm that the felt in the v-groove is lubricated.
- Confirm that the on/off buttons operate.
- Using a DVM, check the 5 V, -5 V, and 12 V voltages on the E-box.

Adjusting and Testing the Configuration

After the platesetter is assembled, you must do the following :

- Check that the focus stopper is properly located
- Confirm that all media-related parameters are correct

Note: If the device is not the first one installed at the customer site, you must also adjust parameters.

- Set media definitions for each media

  Important: Set the proper focus value for the thickness of each media that will be used.

CAUTION: Before you can set the proper focus value for each media thickness, you must move the nozzle as far away from the drum as possible. Failure to move the nozzle as far away from the drum as possible before setting the thickness of each media may cause irrepairable damage to the platesetter.

- Perform ITP testing
- Calculate scale factors

Checking the Focus Stopper Location

To move the focus stopper to the proper location:

1. Move the carriage to any location along the drum.
2. Move the focus motor to the maximum location.
   - For wide focus range, move the focus motor to 5000.
   - For earlier versions, move the focus motor to 2800.
3. On the optic tube stopper, loosen the two hex screws and then move the stopper until the optic tube bracket touches the optic tube.

Focus assembly direction of movement

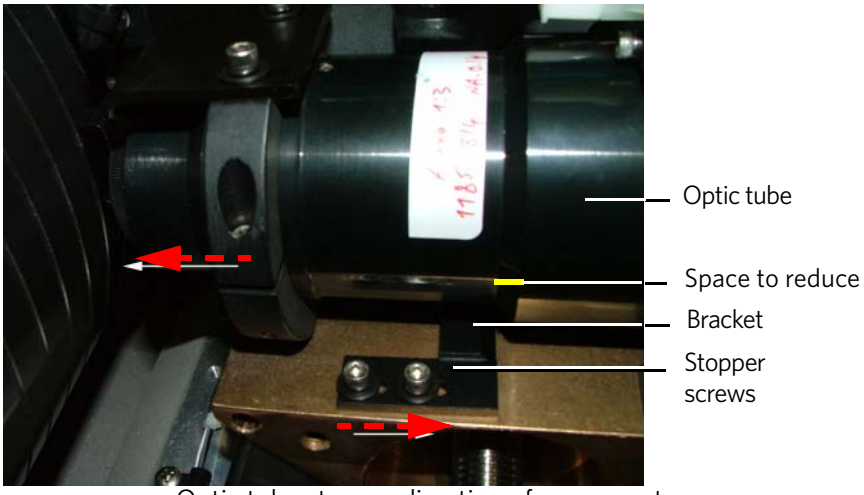


Figure 18: Focus stopper

Note: The red arrows in Figure 18 show the direction of movement.

4. Lock the stopper in place by tightening the two hex screws.

Confirming Database Parameters

During production in the factory, database parameters are set and tested for each type of media that the customer plans to use. A list of these parameters (the Database Parameters document) is included in the installation kit. Check and confirm that the platesetter database parameters match the parameters on the Database Parameters document.

If the focus and drum speed parameter values for each media do not appear on the Database Parameters document, you must perform the focus calibration test for that media.

If the customer plans to use a new type of media that was not included in the list, you must define the media with an estimated focus value, and then perform the focus, drum speed, and coarse and fine resolution calibration tests

Note: These calibration procedures are explained in detail on TechPlanet on the procedures page.

Setting Customer Media Definitions

After the platesetter is assembled, you must set the customer media definitions in the software.

1. Confirm that the media with which the customer plans to work is approved by Kodak.
2. In ThermoFlex Controller, select **Settings > Media Definitions**.
3. In the Media Definitions dialog box, click **New** to clear the media definitions boxes.

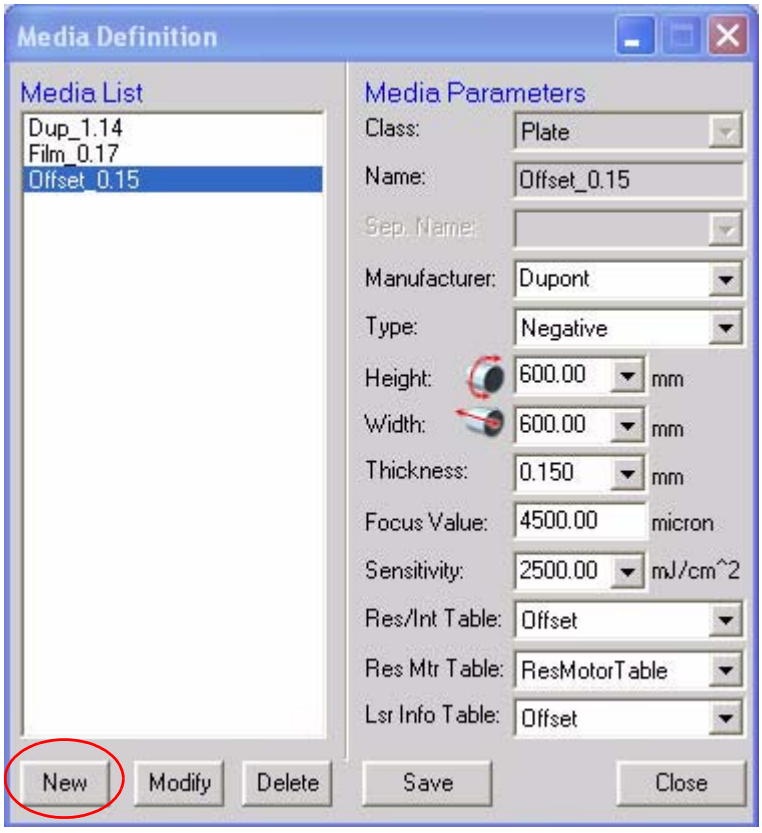


Figure 19: Media Definitions dialog box

4. In the Media Definitions dialog box, set the relevant definitions for the customer's media.

Parameter	Setting
Class	Plate
Name	Media name
Manufacturer	Media manufacturer
Type	Plate type
Height	Plate height
Width	Plate width
Focus Value	In the Database Parameters document included in the installation kit, find the correct focus value according to the media type. If required, calibrate the focus value as described in the Focus Calibration Test procedure in TechPlanet.
Sensitivity	2500.00
Res/Int Table	Resolution intensity table according to the type of media used
Res Mtr Table	Resolution motor table
Lsr Info Table	Laser information table

5. Access the Media Advanced Properties dialog box:

   a. Click the background of the ThermoFlex Controller software's main window, and press <CTRL>+<U>.

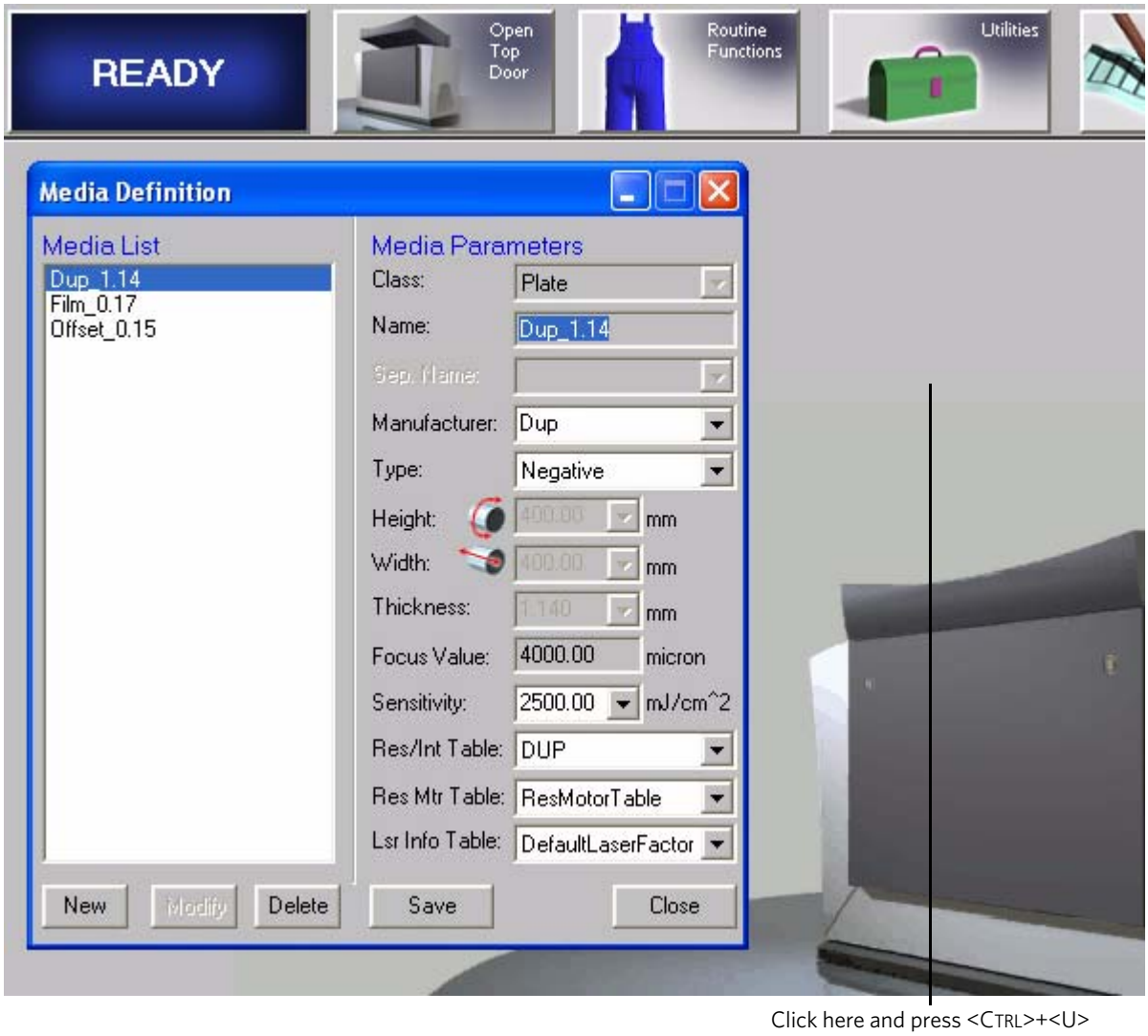


Figure 20: Accessing the Media Advanced Properties dialog box

   b. Click the **Adv.** (advanced) button.



Figure 21: Adv. (advanced) button

6. In the Media Advanced Properties dialog box, set the relevant settings for the customer's media (as described in the table on page 24), and then click **Save**.

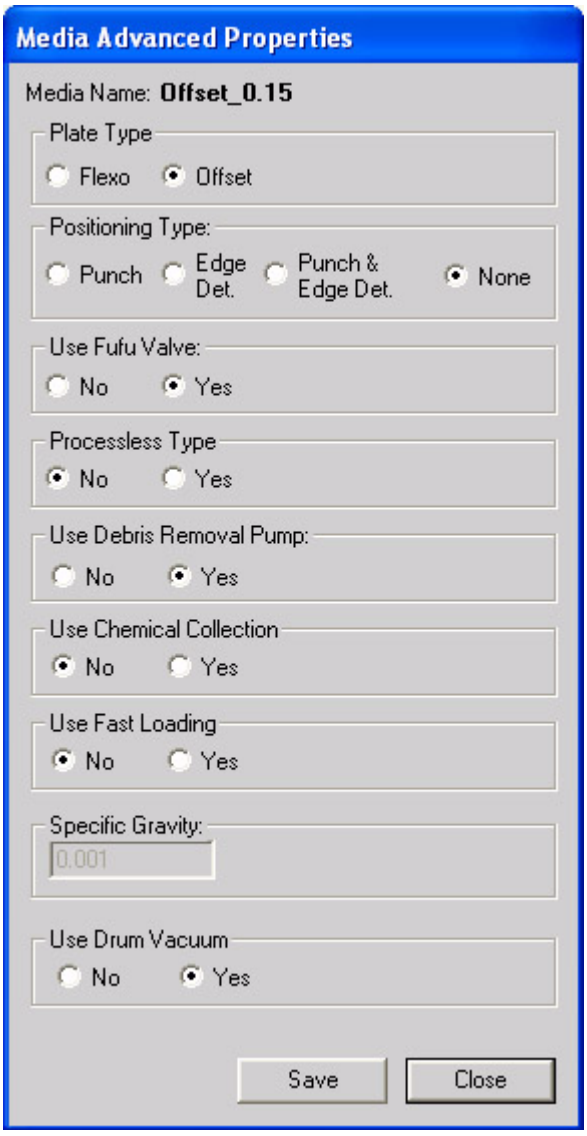


Figure 22: Media Advanced Properties dialog box, showing settings for an Offset plate

Table 2: Media Advanced Properties parameter settings

Parameter	**Setting**	
Plate Type	Flexo	Offset
Positioning Type	None	None
Use Fufu Value	None	Per media type
Processless Type	None	Per media type
Use Debris Removal Pump	Yes	Yes
Use Chemical Collection	Per UDRC type: BP = no, BF = yes	
Use Fast Loading	No	No
Use Drum Vacuum	Yes[a]	Yes

a. For steel-backed flexo plates, select **No**.

Calculating Scale Factors

Flexo plates are composed of a polyester base layer that is 0.005" (0.127 mm) thick, and a polymer layer of varying thickness.

Note: Letterpress plates are 0.010" (0.25 mm) thick.

When a flexo plate is loaded onto the drum, the polyester layer retains its original size while the polymer layer stretches around the drum. There is no stretching along the width of the drum. The thicker the plate, the greater the diameter of the exposed area.

- A thin flexo plate wrapped around the drum has a smaller circumference than that of a thick plate.
- A thick flexo plate wrapped around the drum has a larger circumference than that of a thin plate.

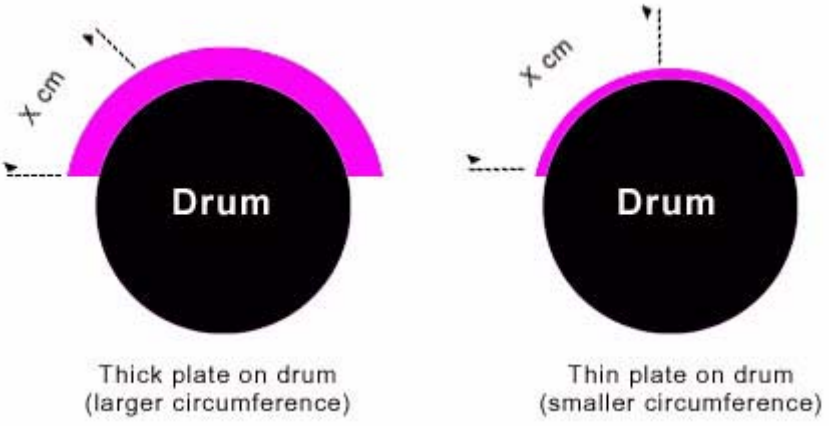


Figure 23: Difference in circumference of thick and thin plates wrapped around the drum

The different circumferences can lead to image distortion in which an exposed image is smaller than the expected outcome.

When the plate is removed and placed upon a flat surface, the exposed area shrinks to its original size, which is smaller than the exposed area on the drum. However, the ThermoFlex Controller software takes into account the plate thickness measurements and the drum diameter to calculate the scale factor (SF). The result provides you with a very precise file size in relation to the exposed area.

Note: The LD factor is calibrated on the production line. The value should appear as **Width Factor** in the ThermoFlex Controller registry.

To ensure that the exposed image is the same size as the expected outcome, calculate the scale factor corresponding to the plate thickness using the scale factor formula, and enter the scale factor into the workflow software.

$$\text{Scale Factor} = \frac{(\text{expose diameter} \times 100)}{(\text{expose diameter} - 2\times \text{soft thickness})}$$

- Scale factor = The figure entered into the workstation in order to compensate for image distortions. Accuracy is to the nearest thousandth decimal place.
- Expose diameter = Drum diameter + (2x plate thickness)

  Note: On the ThermoFlex Mid flexograph, the drum diameter will remain constant at 328 (mm).

- Soft thickness = Plate thickness subtracted from the polyester base thickness

  Note: On the ThermoFlex Mid flexograph, the polyester base thickness will remain constant at 0.127 (mm).

Example:

$$\text{Scale Factor} = \frac{100\ (328^{1} + 2\text{x}1.7^{2})}{(328 + 2\text{x}1.7) - 2(1.7 - 0.127^{3})}$$

Scale Factor = 100.959

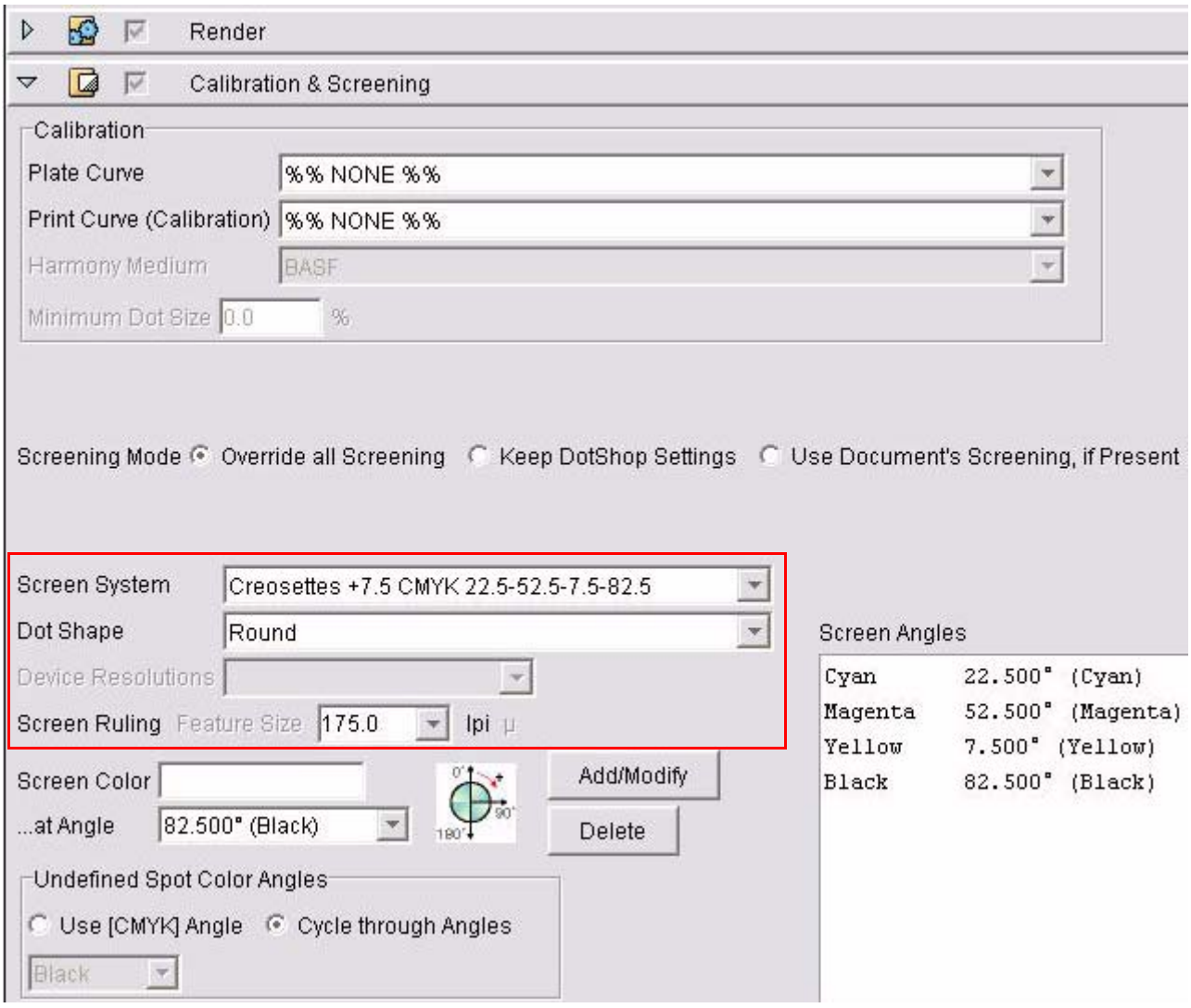
[1] drum diameter, [2] plate thickness, [3] polyester base

Note: An automatic scale factor calculation tool can be found on TechPlanet.

Selecting Screen Settings

In Prinergy®, in **Calibration & Screening**, select the following:

Resolution / Parameter	2540 dpi	2400 dpi
Screen System:	Creosettes +7.5 CMYK 22.5-52.5-7.5-82.5	Creosettes +7.5 CMYK 22.5-52.5-7.5-82.5
Dot Shape	Round	Round
Screen Ruling	85, 105, 125, 130, 149, 174	87, 100, 122, 137, 141, 173



Performing the Installation Testing Procedure

Perform the Installation Testing Procedure (ITP) and have the customer sign the Installation Testing Procedure Checklist (ITPC). If the ITP is not successful, you may need to perform the calibration tests, as described on TechPlanet on the Procedures page.

Appendix A: Customer Onsite Training Checklist

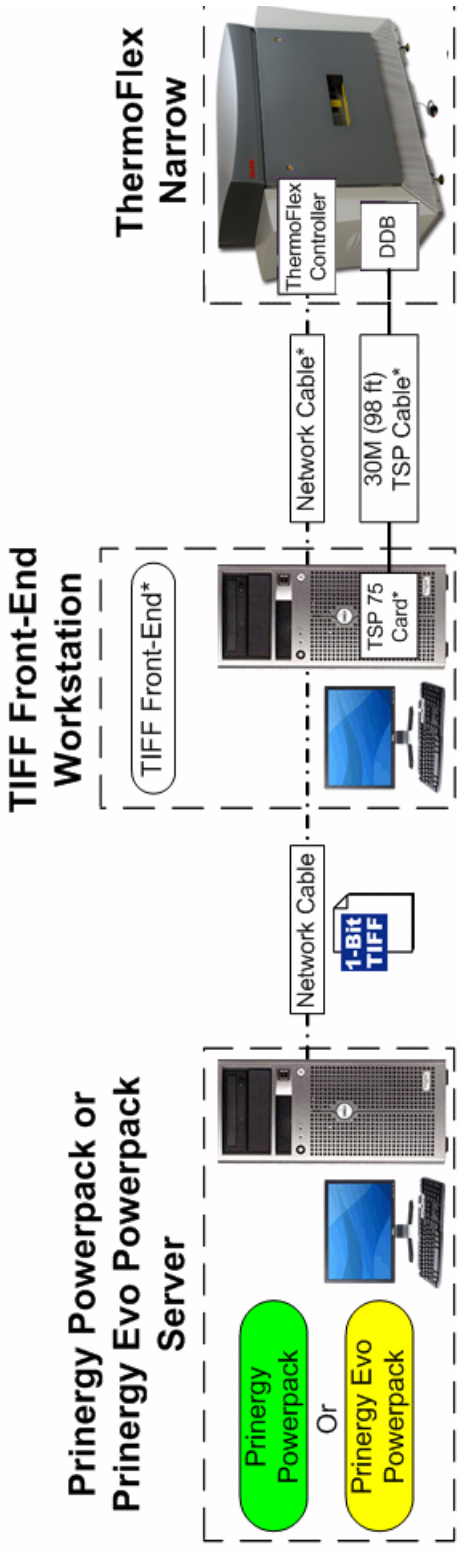
Before leaving the site, verify that the customer understands and can perform the following basic operations:

- Observing safety precautions
- Operating the Controller application (GUI)
- Loading, unloading, and handling media
- Setting media definitions
- Exposing
- Performing basic maintenance (PM)
- Troubleshooting common customer-level problems
- Verify that customer has, or is aware of the equipment required in Appendix 1, *Equipment Supplied by Customer*.

Appendix B: Equipment Supplied by Customer

Verify that the customer supplies the following equipment:

- Light table
- Cutting table
- Desk for monitor
- Plate measuring device such as FAG Vipflex orX-RiteDot
- Plates
- Tape
  - ❒ For flexo plates: PVC tape 1 in. black
    3M®-471 or tesa® 60760 tape recommended
  - ❒ For offset plates: Alumininum foil tape W=1.5
    3M #425 Aluminum Foil Tape (No. 427 linered version) tape recommended
- Calliper to measure plate thickness
- Gloves for handling plates


ThermoFlex Narrow
ThermoFlex Controller
DDB
Network Cable*
30M (98 ft) TSP Cable*
TIFF Front-End Workstation
TIFF Front-End*
TSP 75 Card*
Network Cable
1-Bit TIFF
Prinergy Powerpack or Prinergy Evo Powerpack Server
Prinergy Powerpack
Or
Prinergy Evo Powerpack

Appendix C: Product and Shipping Container Dimensions

Device	Depth	Width	Height	Weight
Platesetter	900 mm (36 in.)	1760 mm (69 in.)	Max: 1800 mm (71 in.) Min: 1340 mm (53 in.)	750 Kg. (1650 lb.)
Platesetter shipping container	1140 mm (45.28 in.)	2060 mm (81.1 in.)	1600 mm (63.39 in.)	830 kg (1830 lb.)
Debris removal cabinet	See the UDRC Site Preparation and Requirements document (725-00089A).			
Workstation	Varies with configuration			
Optional equipment				
UDRC external venting	See the External Venting Upgrade for UDRC document (709-00211A-B-PR01)			

Note: Width is in the x-axis direction. Depth is in the y-axis direction.

Appendix D: Packing the Platesetter for Shipment

A minimum of two people and a forklift are required to pack the platesetter and place it on the shipping pallet. See Figure 24 on page 32. The numbers in the instructions below refer to the item numbers shown in the figure.

1. Disconnect all the electrical cables from the platesetter and remove the skirting boards from the front, rear and sides.
2. Disassemble the loading tray and brackets [2].
3. If the forklift cannot be moved to the platesetter location, roll the platesetter to the shipping pallet. To do so, on each leg, turn the nut counterclockwise to its maximum position until the wheels touch the floor and then roll the platesetter to the shipping pallet.
4. Place the two lower shipping beams [6] on the shipping pallet [7] above the main shock-absorbing beams.
5. Using the forklift, lift the machine and place it on the shipping beams, aligned according to the securing bracket holes.
6. Secure the machine to the shipping pallet using the four brackets, screws and washers [8].
7. After confirming that the platesetter is positioned and secured properly, cover the platesetter with nylon wrapping.
8. Pack the skirting boards in bubbled nylon and place them behind the platesetter. Secure them with plastic tape [1].
9. Staple the side wooden struts [5] to the shipping beams [6].
10. Staple the top wooden struts [3] to the side wooden struts [5].
11. Place an outer carton container [2] on the platesetter. Use staples to secure the outer carton to the shipping pallet [7] and side wooden struts.
12. Close the top flaps of the outer carton.
13. Close the outer carton with plastic tape and with two steel bands.

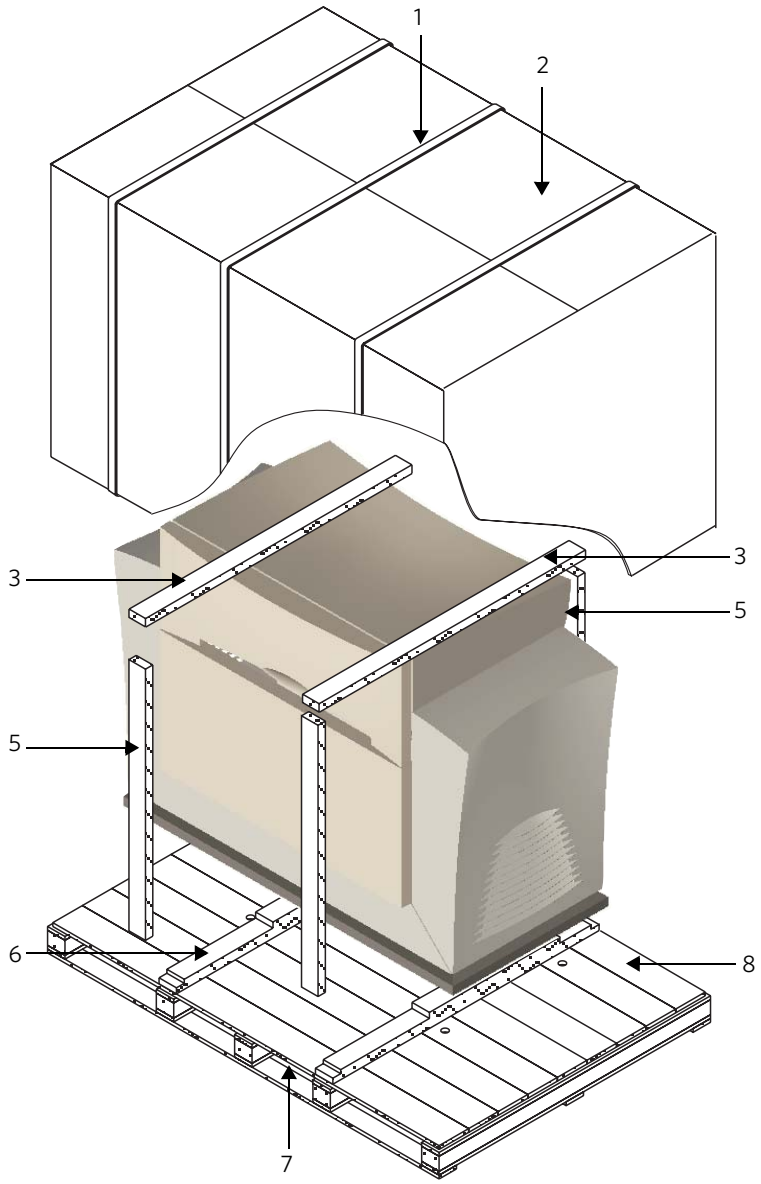


Figure 24: Packing the platesetter for shipment