Installation Guide

English

ThermoFlex Mid

DRAFT

731-00314A-EN

www.creo.com

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D478,608	5,420,702	5,699,740	6,016,752	6,191,882	6,407,849	6,587,211
4,558,302	5,420,722	5,708,736	6,043,865	6,204,874	6,409,331	6,589,710
4,743,091	5,459,505	5,713,287	6,060,208	6,205,364	6,414,755	6,590,635
4,992,864	5,473,733	5,742,743	6,063,528	6,208,369	6,422,801	6,593,064
5,049,901	5,481,379	5,764,374	6,063,546	6,214,276	6,425,565	6,601,888
5,113,249	5,488,906	5,771,794	6,072,518	6,217,965	6,430,136	6,605,407
5,132,723	5,508,828	5,785,309	6,090,529	6,252,241	6,435,091	6,609,459
5,155,782	5,509,561	5,802,034	6,093,447	6,252,522	6,441,914	6,611,363
5,157,516	5,517,359	5,813,346	6,096,461	6,255,033	6,443,571	6,618,187
5,177,724	5,519,852	5,818,498	6,098,544	6,260,482	6,450,092	6,628,435
5,208,818	5,576,754	5,854,883	6,107,011	6,266,080	6,456,396	6,632,584
5,208,888	5,579,115	5,861,904	6,112,663	6,266,134	6,471,335	6,637,329
5,247,174	5,583,551	5,861,992	6,115,056	6,267,054	6,476,342	6,637,860
5,249,067	5,592,309	5,875,288	6,116,160	6,268,948	6,476,931	6,640,713
5,283,140	5,594,556	5,894,342	6,121,996	6,270,204	6,477,955	6,641,772
5,291,273	5,600,448	5,900,981	6,130,702	6,283,589	6,493,064	6,641,978
5,305,091	5,608,822	5,934,196	6,134,393	6,295,076	6,494,965	6,646,669
5,323,248	5,615,282	5,946,426	6,136,509	6,299,572	6,503,691	6,648,468
5,325,217	5,625,397	5,947,028	6,137,580	6,318,266	6,509,903	6,652,088
5,339,176	5,625,766	5,958,647	6,147,789	6,328,408	6,511,163	6,654,147
5,343,059	5,636,330	5,966,504	6,158,345	6,336,708	6,520,084	6,660,997
5,355,446	5,649,220	5,969,872	6,159,659	6,340,817	6,530,317	6,661,561
5,359,451	5,650,076	5,973,801	6,164,637	6,352,816	6,541,181	6,665,048
5,359,458	5,652,804	5,986,819	6,165,658	6,353,216	6,544,336	6,665,121
5,367,360	5,680,129	5,995,475	6,180,325	6,366,339	6,545,772	6,670,986
5,384,648	5,691,823	5,996,499	6,181,362	6,371,026	6,550,388	6,684,783
5,384,899	5,691,828	5,998,067	6,181,439	6,377,739	6,564,018	6,704,123
5,412,491	5,696,393	6,003,442	6,186,068	6,387,597	6,567,713	

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Introduction

The ThermoFlex® Mid Installation Guide describes the process of unpacking and installing a ThermoFlex Mid platesetter at a customer site.

Before you begin to unpack and install the platesetter, confirm that the site is ready according to the ThermoFlex Mid site preparation guidelines 701-00302A. For your convenience, the power- and connections-related prerequisites can also be found in this document in *Connecting the External Components and Power* on page 11.

Unpacking the Platesetter



Note: It is recommended to read this entire section before starting to unpack.

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

Requirements

- Two people
- Forklift
- 5/16” hex key

Before unpacking

Before unpacking the platesetter, ensure that the following conditions exist.



WARNING: Do not proceed with the unpacking if the following conditions do not exist.

- The shipping container is undamaged.



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

- The temperature where you are unpacking the platesetter is not less than 0°C and not more than 30°C.
- If the weather is very humid, the room is air-conditioned.
- The site is large enough to allow easy maneuvering of the platesetter.
  - ❒ There is space for the forklift to lower the platesetter from the shipping pallet.
  - ❒ The doorway clearance is adequate for the platesetter and forklift.

	length	width	height
Shipping container	1560 mm	2250 mm	1600 mm
Platesetter	1300 mm	2200 mm	1400 mm
Platesetter with doors open	1300 mm	3400 mm	1900 mm

Table 1: Platesetter and container dimensions

Removing the Platesetter From the Packaging

At least two people and a forklift are required to unpack and lower the platesetter from its shipping pallet. The unpacking process is shown in Figure 1 on page 4. 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 lable 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.

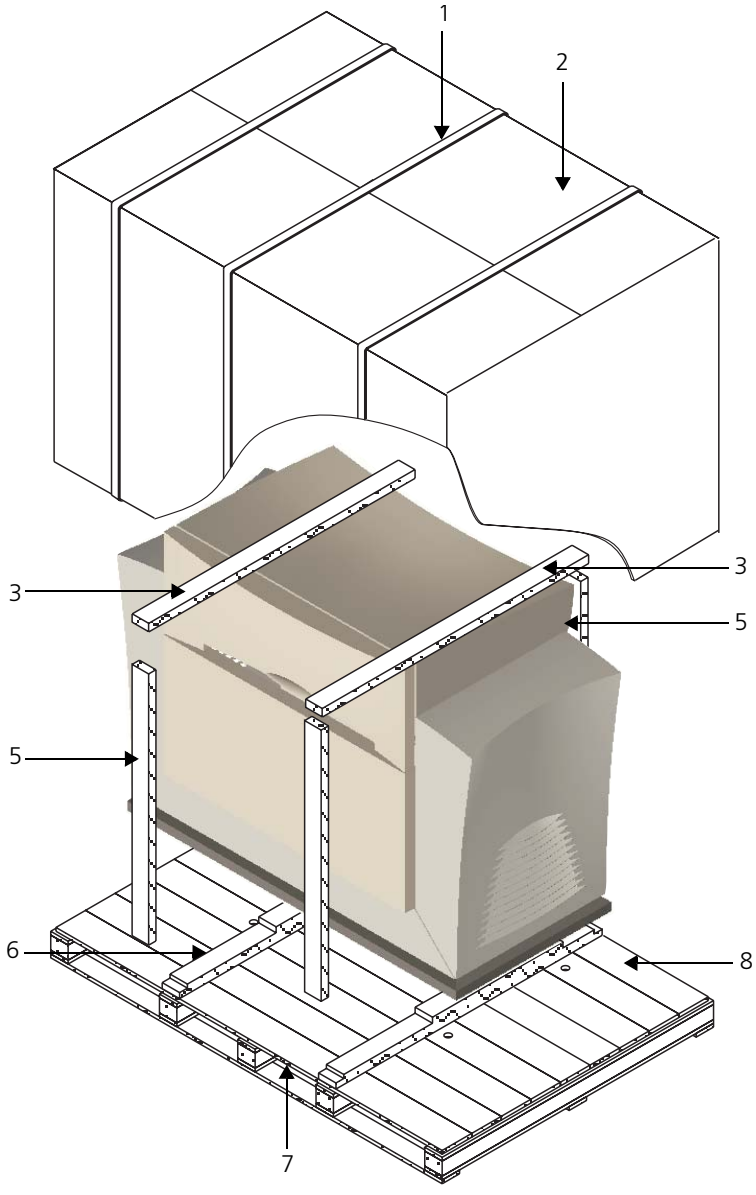


Figure 1: Unpacking the platesetter

Parts Checklist

For a parts list, see the *GCL* forms attached to the platesetter packaging, and *Appendix A: Parts List* on page 20 in this document.

Opening Doors

1. To open the upper rear door, insert a screwdriver into the two holes of the rear panel to release the locking mechanism pins of the upper rear door.



Figure 2: Opening the upper rear door

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

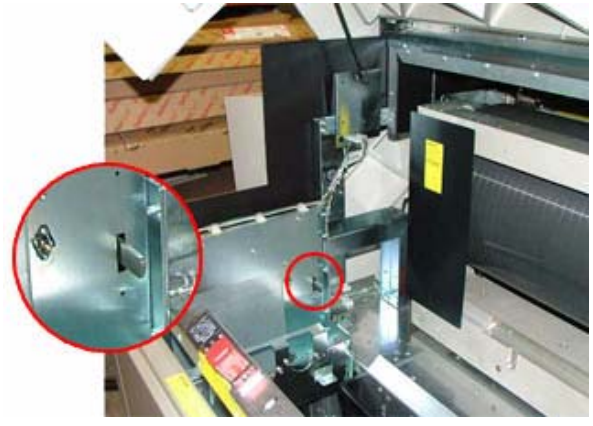


Figure 3: Opening the left side door

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



Figure 4: Opening the upper front door

Adding Safety Labels

If the safety labels are not in place on the device, stick on the labels in the relevant language, as described in the *ThermoFlex Mid Safety Guidelines (731-00169A-EN)*.

Removing Shipping Safeguards

The ThermoFlex Mid platesetter is shipped with seven safeguards that prevent excessive movement of internal parts during transport. The safeguards are **red** for easy identification.

This section describes how to remove these safeguards.

Assembly	Qty	Location
Optomech to chassis	4	2 in front 2 in back
Carriage to optomech	2	1 in front of the carriage 1 in back of the carriage
Distribution box	1	in back of the distribution box

Table 2: Safeguard types and locations

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

1. Remove the screws from the four safeguards that secure the optomechanic assembly to the chassis and remove the safeguards.

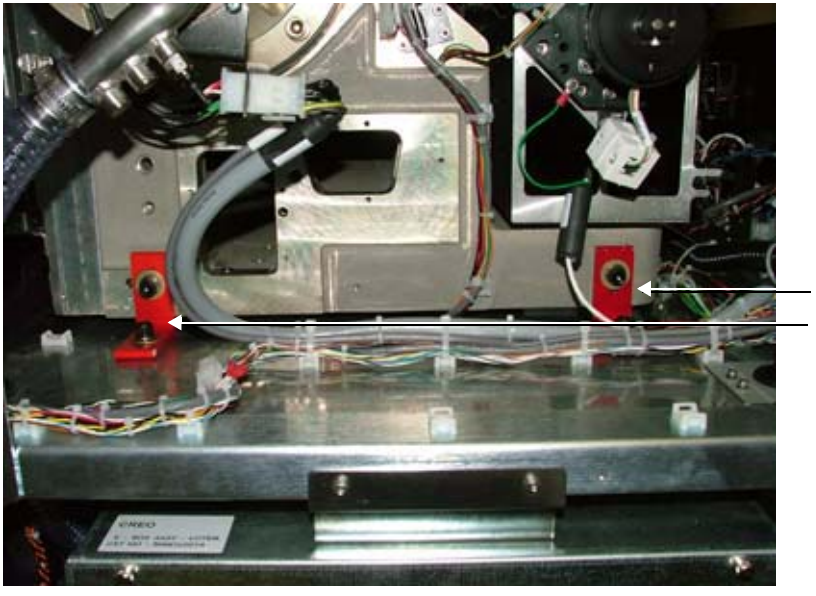


Figure 5: Two optomech-to-chassis safeguards - left side view

2. Remove the screws from the two safeguards, shown following, that secure the carriage to the optomechanic assembly and remove the safeguards.

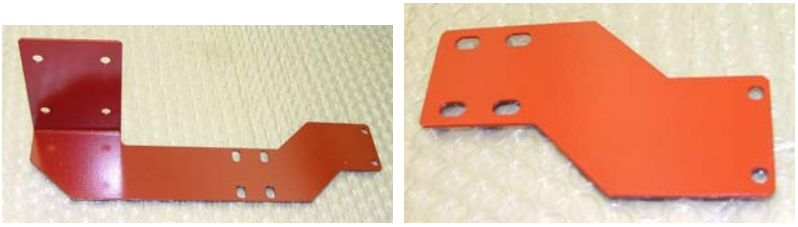
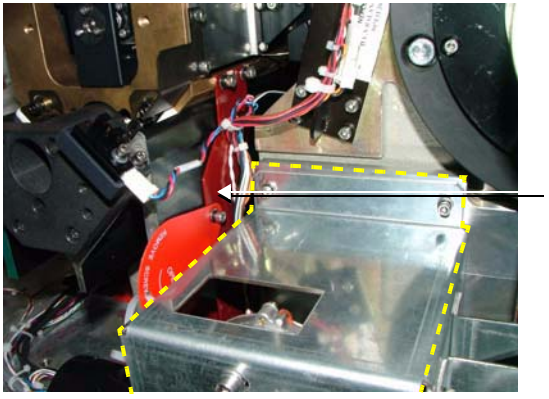


Figure 6: Carriage-to-optomech safeguards

One safeguard is in front of the carriage and one is in back, but you can access both from the front side of the platesetter.



Note: The outlined component is part of the Mid II version only.

Figure 7: Carriage-to-optomech safegard - left

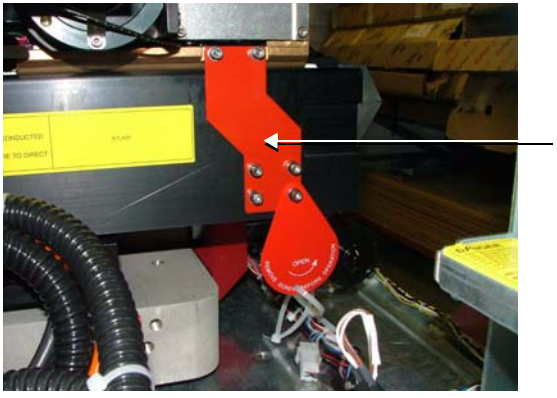


Figure 8: Carriage-to-optomech locking device - right

3. Remove the screws from the locking device that secures the distribution box, shown following.

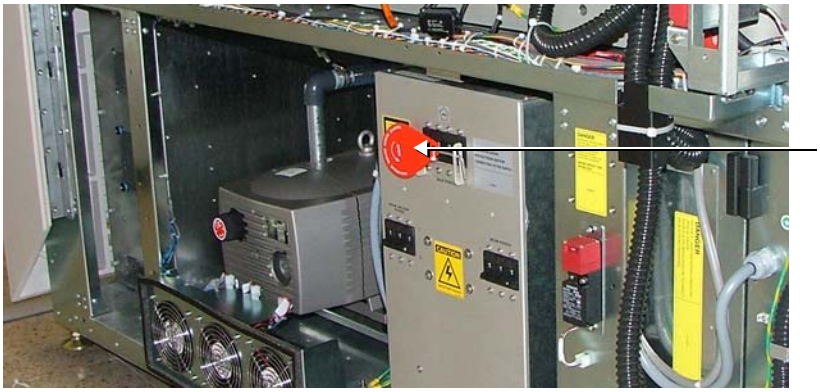


Figure 9: Distribution box locking device

4. After removing the locking devices, visually inspect the components inside the machine to confirm that they are undamaged.

Leveling the Platesetter

Final leveling means that the platesetter is positioned on a uniform horizontal plane at all four corners, with all four wheels raised above the floor, to ensure smooth plate loading.

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. Then tighten the locking nut.

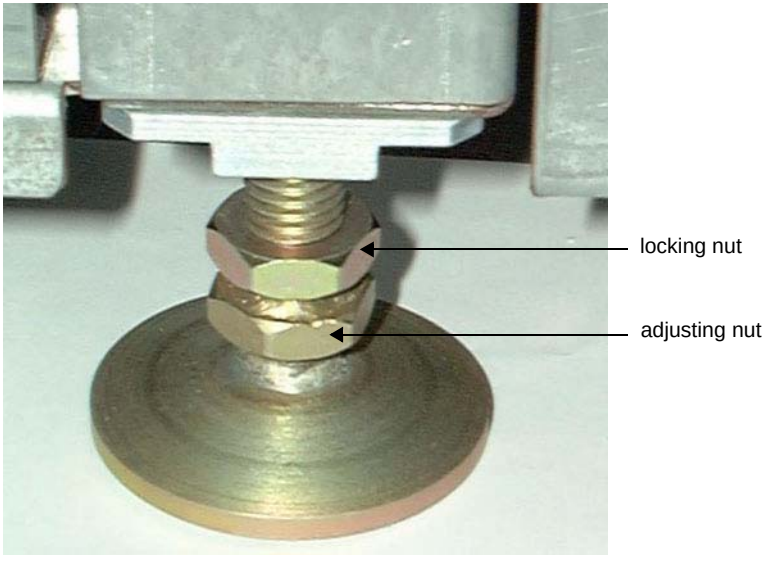


Figure 10: Adjusting leg height

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

Connecting the External Components and Power

This section contains the following subsections:

- Before you start
- Connecting the foot pedal
- Connecting the monitor, keyboard, and mouse
- Connecting the air compressor
- Connecting the debris removal cabinet
- Connecting the power

Before you start

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

Device voltage	Power supply voltage	Phases	Source	Transformer required
110	110/120	3	device	no
110	220/230	3	device	yes

Platesetter voltage and connections

- Line voltage—two-phase supply in 120 V 25 A configuration, or one-phase in 230 V 25 A configuration
- Supply voltage—200–240 Vac ±10%; frequency variation up to 50/60 Hz ±2%
- Wall connector—female, 32 A 6h, 3–pin – 2 phase and ground, supplied by customer
- Three Ph outlet—208V/120Vac ±10%, 3 phase (Star) 20A. Frequency – 50/60 ±2%
- Three Ph R.S.T connected by customer's electrician according to the 3Ph sequence of the connector on platesetter power cable.
- Outlet plug with a 5-pin connector – 3Ph R.S.T, Neutral & GND, 30A for 120V line voltage (NEMA L21-30P)

- Main Power Cable—male, 6h 3–pin – 2 phase and ground, supplied with platesetter
- Transformer—for ThermoFlex Mid in countries with a line power of 220Vac, a step-down transformer is required
  - ❒ Conversion—from 346/200, 380/220 or 415/240 to 208/120V (3Ph)
  - ❒ Wall connector—must have a 3-pole protection fuse circuit breaker with high transient currents (for LV/LV transformers) for 16A magnetic releases operating between 10-14 In (startup current)
  - ❒ Dimensions—height 550 mm (22 inch), width 320 mm (12.5 inch), length 520 mm (20.5 inch)

External components connections

- Brisque® workstation, Brisque monitor and ThermoFlex Controller monitor—three power supply connections required, 120 V ±10% or 230 V ±10%, 16 A
- Service—additional isolated single-phase outlet
- Processor, pre-heat ovens, baking ovens and/or plate stacker—additional power is required
- Debris Removal Cabinet—see pages 3 and 4 of the Universal Debris Removal Cabinet (UDRC) Site Preparation Guide



Note: For more information, see *ThermoFlex Mid Site Preparation Guidelines* (part number 731-00302A-EN).

Connecting the foot pedal

1. Open the left side door, as described in *Opening Doors* on page 5.
2. Remove the front trapeze.
3. Take out the foot pedal and place it on the floor.



Figure 11: Foot pedal connected

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

Connecting the monitor, keyboard, and mouse

1. Place the ThermoFlex monitor, keyboard, and mouse on the designated monitor table.
2. Connect the cables from the ThermoFlex monitor, keyboard and mouse to the E-box, as shown in Figure 12.
3. Connect the main power cable of the ThermoFlex monitor to the wall socket.

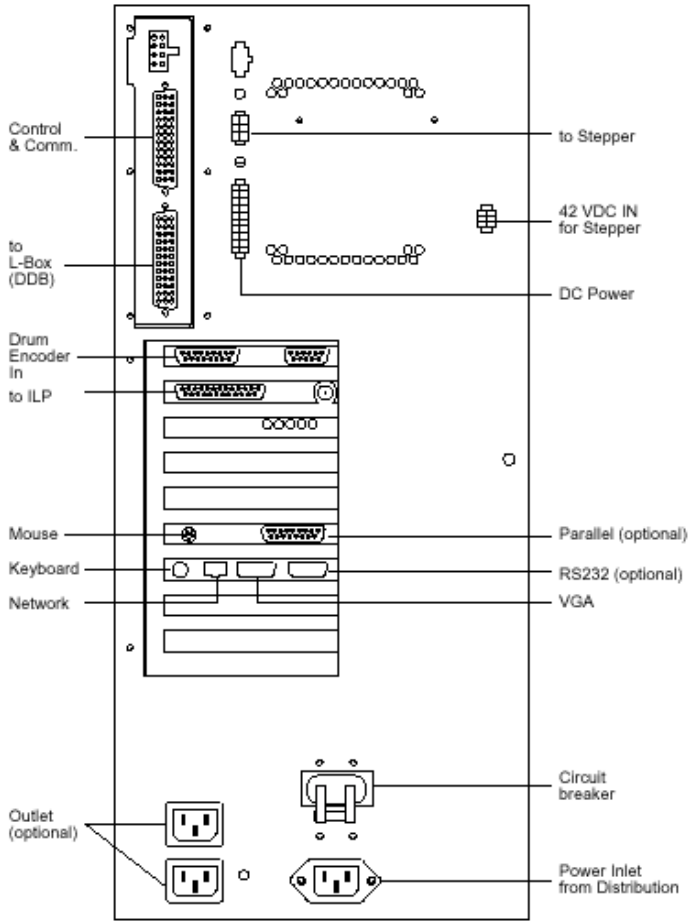


Figure 12: E-box connections

Connecting the debris removal device

The ThermoFlex Mid device can be connected to either the Universal debris removal cabinet (UDRC) or the Fuchs.

Connecting the UDRC

There are two UDRC options:

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

Note: The UDRC BP can have external venting. The information herein is specific to ThermoFlex Mid with UDRC. For more information, see UDRC Installation on TechPlanet (output/heads/debris_removal/nav/install.htm).

To connect the UDRC to the platesetter

1. Position the UDRC as close to the rear of the platesetter as possible.
2. Attach the 1-1/2" vacuum hose from the adaptor to the hose extension on the back of the UDRC.



Figure 13: UDRC connection

3. Connect the data cable from the back of the platesetter to the port on the back of the UDRC, as shown in Figure 13.
4. Connect the power cable from the socket on the UDRC, as shown in Figure 13, to the power socket on the wall.

Connecting the Fuchs vacuum pump

1. On the right rear under-sideof the platesetter, connect the 5 M vacuum hose to the exit tube. Use a clamp to tighten the hose to the exit tube.
2. Connect the other end of the hose to the vacuum pump.
3. Connect the 5 M signal cable to platesetter (near the vacuum hose connection).
4. Connect the other end of the signal cable to designated location on the vacuum pump.
5. Connect the vacuum pump to the most convenient outlet at your site. See the manufacturer's manual for details.
6. Perform electrical connections:
   - **220 VAC line power**—Plug the vacuum pump's electrical cable into the wall connector and turn on the pump.

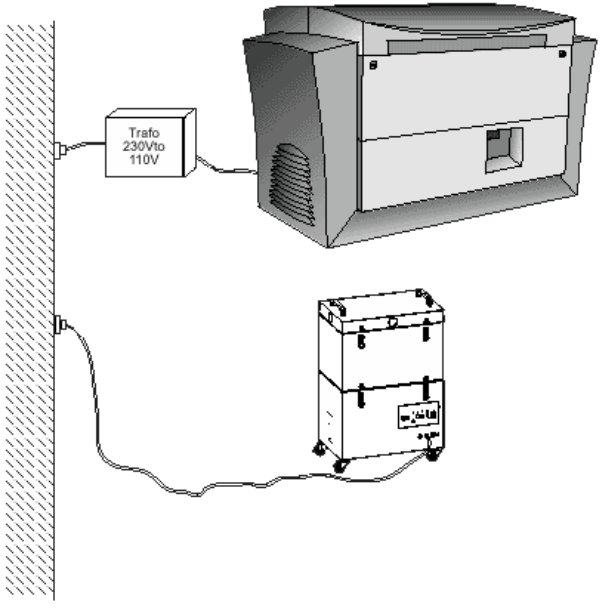


Figure 15. Platesetter, vacuum pump & transformer connection for 220Vac

- **110 VAC line power**—Connect a 3Ph 220V transformer to the wall connector and the vacuum pump.

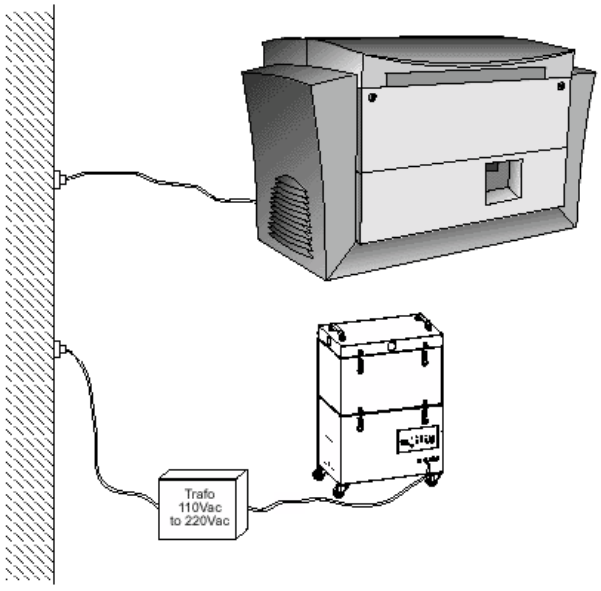


Figure 16. Platesetter, vacuum pump & transformer connection for 110Vac

In either case, if a red LED is lit on the pump, turn off the pump, disconnect the pump from the main power, and reverse the 2 phases of the pump connector.

Connecting the power

1. Open the left side door.
2. On the distribution box, locate the main power cable and pull it out through the cable opening in the rear of the platesetter.
3. Using a digital voltmeter (DVM), measure the actual line voltage.

4. 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.

5. Connect the main power cable.

Setting Up Data Connectivity

To ensure that the platesetter can communicate with the workflow system, make the following connections:

- Data cable for data transfer
- TCP/IP link for communication between the ThermoFlex Controller and the workflow solution workstation.

To connect the data cable

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

Setting Up the TCP/IP Connection

The point-to-point connection method is recommended for connecting the workflow solution workstation directly to the ThermoFlex platesetter:

1. Connect the twisted pair network cable to the workflow solution workstation.
2. Connect the other end of the twisted pair network cable to the network interface in the E-box.

Note: It is possible to connect both the workflow solution workstation and the platesetter to the site's network infrastructure. However, this method is more likely to expose the system to viruses. If you decide to use this method, verify that the workflow solution workstation is connected to the network via the fast ethernet board in slot 2, and connect the network port in the E-box to the communication network switching hub, as shown in Figure 14.

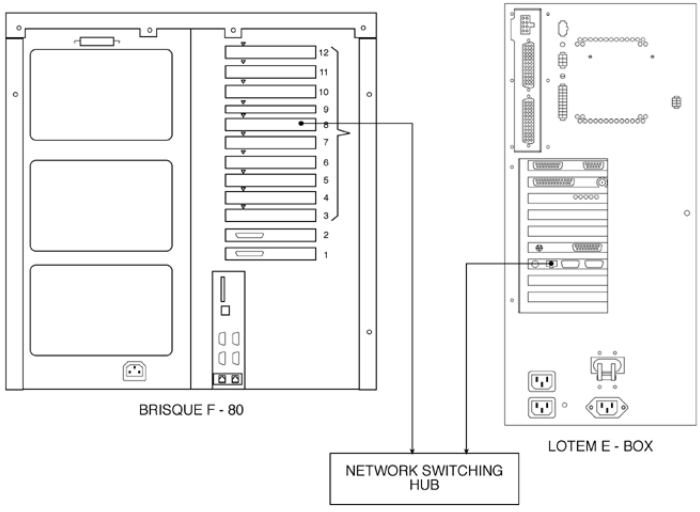


Figure 14: Connecting the workflow solution workstation to ThermoFlex Controller

Appendix A: Parts List

Part no.	Description	Qty
344F10120	Black plastic hose	5 M
620B00104	Safety filter bag	2
620B00105	Preliminary filter bag	2
620B00106	High eff filter submicron	1
388B2800	Clamp STST 2”x.56”	2
504S3D195	Lotem flexo foot switch wiring	1
374A8L079	Label: Do not lift from here	2
399Z1P411D	Lotem 800 parameters	
510K1P210	Flex mid accessories kit	

Appendix B: Customer Onsite Training Checklist

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

- Observing safety precautions
- Operating the device application (GUI)
- Loading, Unloading, and Media Handling
- Exposing and Media Definition Setup
- Performing basic maintenance (PM)
- Troubleshooting common customer-level problems

Appendix C: 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 15 on page 23. 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.

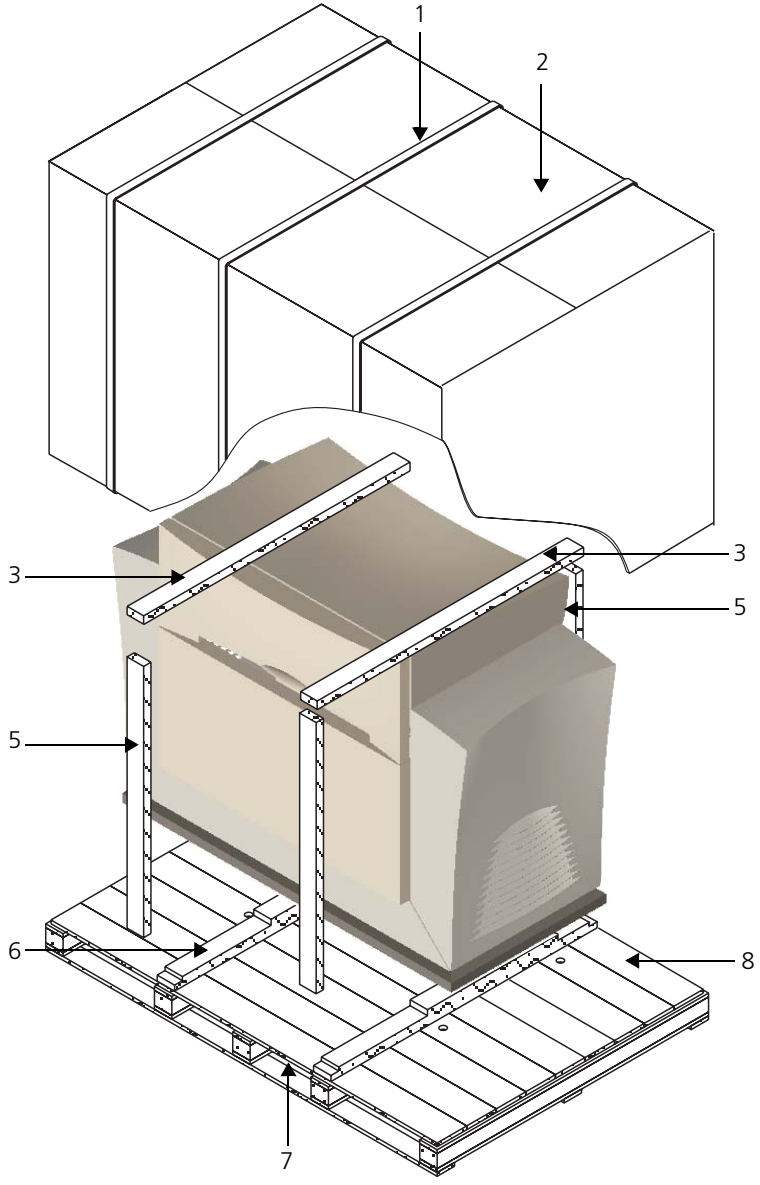


Figure 15: Packing the Platesetter for Shipment