Section 2

Installation

Processor Dimensions

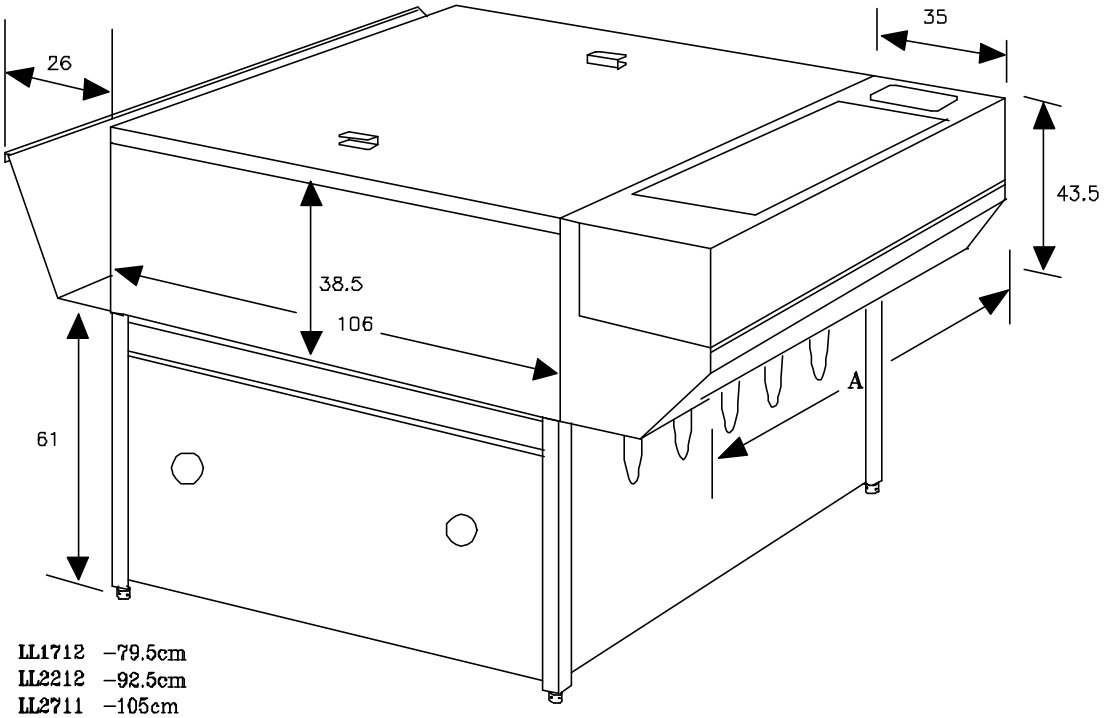

Figure 2-1 Rapid Access Processors Dimensions

Introduction

This section contains instructions for preparing the operating site and for installing and checking out Rapid Access Processors. As these processors are identical except for width, they will all be referred to as Rapid Access Processors. Differences, when they exist, will be noted.

Have the instructions described under Pre-installation (see Pre-Installation Checklist, page 2-7) completed before the installation date. If the installing technician is delayed by incomplete site preparation you could be charged for costs incurred.

Pre-Instllation

A Pre-Installation checklist is located on Page 2-7. Be sure all appropriate items have been completed and checked off before the scheduled installation date.

Model rapid access processors are equipped with a light tight feed section for processing exposed material from cassettes. For these applications the processor may be installed entirely in a normally illuminated room.

To process sheet films or papers with any of the Model Rapid Access Processors it is usually necessary to place the processor either entirely within a safelit area, or, as a through-the-wall installation, with the feed section in the safelit area and the processing section in normal room light. In any configuration, the processing section of the processor should be located in the same room as a clean-up sink.

Dimensions

Refer to Figure 2-1 for dimensions of the Rapid Access Processor you are installing.

Allow a minimum of 61cm (24‡) of additional clear space on all sides of the processor for routine cleaning and maintenance activities.

The replenisher tanks may be placed either under the processor or to one side, as required or desired.

Weight

Rapid Access Processors weight between 130 and 261 kg. (286 to 575 lb5s.) when operating. See Page 1-7 for specific opeating weights.

The processor must be positioned on a stable surface to prevent chemical contamination between tanks and to maintain correct solution levels.

Ventilation

WARNING: Some processing chemical fumes may irritate eyes or respiratory systems when used in a poorly ventilated area.

If the processor is to operate in a confined area, provide for at least ten (10) complete changes of air per hour.

Provide ventilation or air conditioning for machine operation and operator comfort.

Room ambient temperature should be between 20 & 30 degrees C. (68-86 degrees F.) Relative humidity should be kept between 30% and 80%. NOTE: To isolate chemical fumes from other work areas, use an exhaust system separate from the central air circulation system.

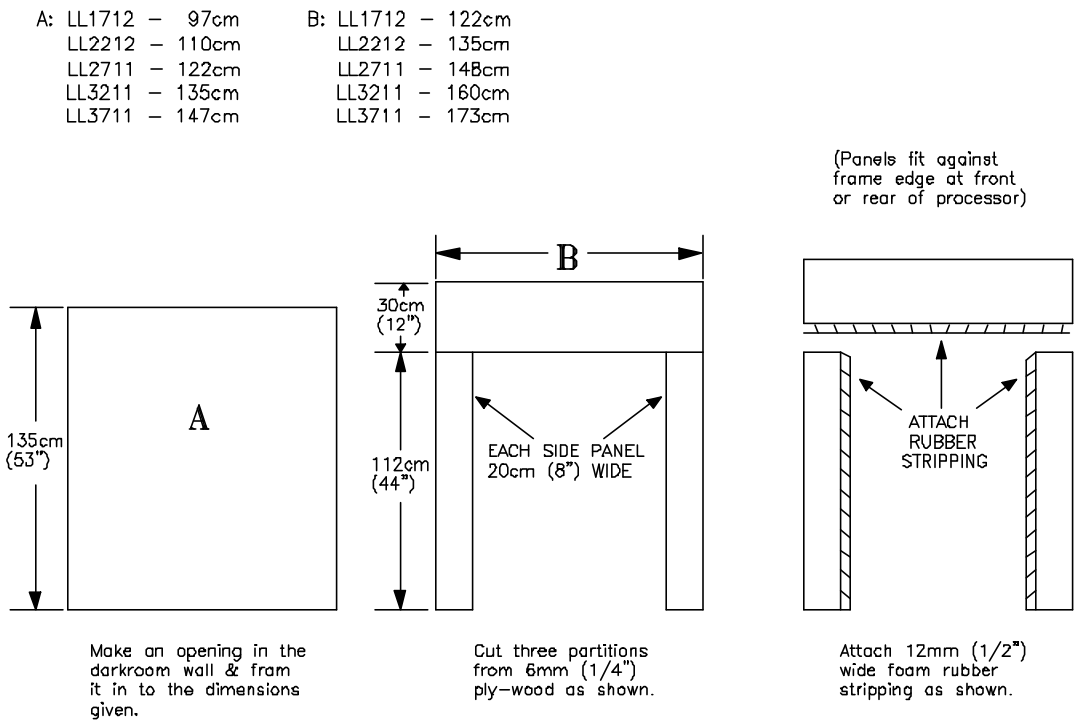

Figure 2-2 Preparing the Darkroom Wall

Darkroom Wall

If your Rapid Access Processors is to be installed through the Opening darkroom wall, frame in an opening of the appropriate size as Shown in Figure 2-2.

Masking panels, available as an option from manufacturer, or fabricated as shown in Figure 2-2, are to be used when fitting the processor to the opening.

NOTE: The processor must be positioned, and the panels fitted on the appropriate side of the wall, to allow easy removal of the developer or dryer rack. Check for proper position and clearances before connecting plumbing. If the processor is equipped with a cassette cover, verify that there is adequate clearance to open it to the upright position.

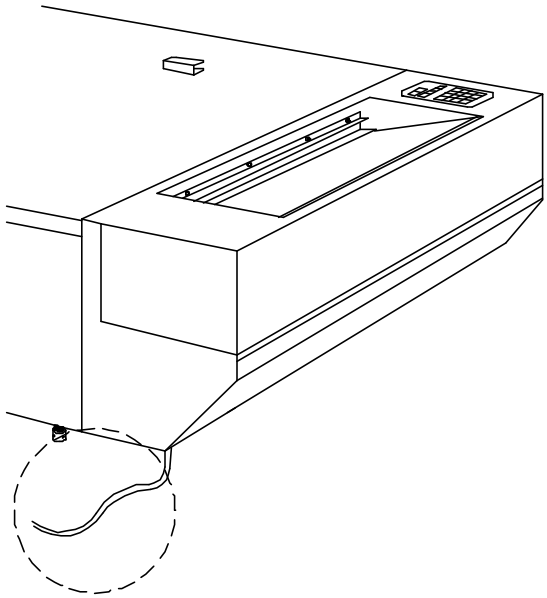

Figure 2-3. Power Input

Electrical Requirements

Rapid Access Processors are factory wired to accommodate standard U.S. configuration 208-240 VAC, single phase Power 50/60 Hz., with a maximum current draw of 15 amps.

The installing technician will verify that the service voltage is within the range specified. If it is not, correction will be required, usually with the installation of a buck/boost transformer.

Have power service installed in the room where the Front of the processor will be located, with a disconnect switch within easy reach of the operator when material is being inserted.

Power connections to the processor are made either with the factory installed power cable or, depending on local electrical code, directly to the terminal strip located in the electronics section under the feed tray.

All wiring should be done by a qualified electrician and must conform to local electrical codes.

CAUTION: Use only copper wire for connections. Tighten all terminal block connections to 3,570 gm. cm. (20 pounds/inch).

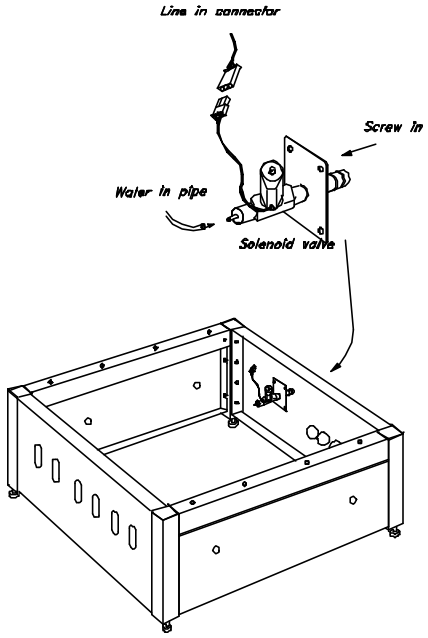

Figure 2-4. Wash Water Input

Water Supply

WARNING: All connections between the processor and the water supply must be made in compliance with applicable local and national laws and regulations.

Water enters the processor via the wash water which is located at the back panel of the machine stand, see Figure 2-4. The input fitting for the wash water is a 22mm (7/8") O.D. barbed fitting.

The wash water flow rate for normal operation is 2 liters per minute @60 PSI (max) in process mode, when the wash water solenoid is energized. Wash water flow is ON only when material is passing through the wash tank.

Wash water temperature limits are determined by the type of material being processed.

Check with your film and chemistry representative for specific wash water temperature recommendations for the material you will be using and to determine if the use of a tempered or temperature controlled water source will be required.

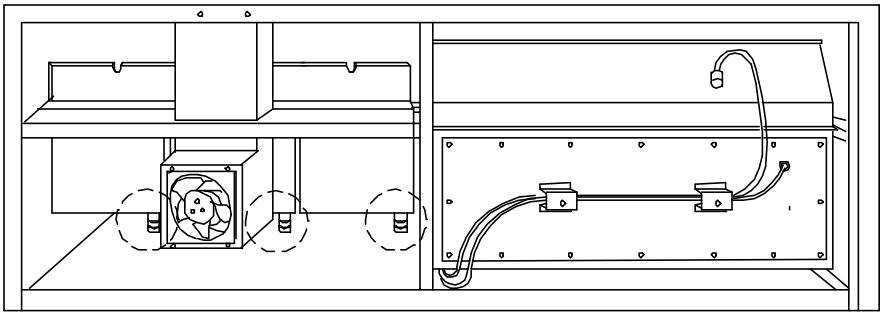

Figure 2-5. Drain Locations & Dimensions

Drains

WARNING: Read and observe all instructions and safety precautions of the chemical manufacturer and follow all local & national environmental protection requirements when handling, using and disposing of photographic chemicals.

Each drain is located, directly below the DEV. FIX. WASH tanks and is terminated with a 25mm (1‡) O.D. barbed male fitting. Dimensions & locations are shown in Figure 2-5.

Parts to assemble a drain manifold in any of several different configurations, depending on installation requirements, are included in the drain manifold kit.

The drain manifold outlet(s) must be connected to a building drain not more than 2 meters (6' away, with a drain entrance not higher than 15cm (6"from the floor. All plumbing must comply with local plumbing codes. Never use copper in the drain system as it will be quickly destroyed by the processing chemicals.

For ease of clean-up there should be a sink, large enough to completely contain one of the processing racks, near the processor.

This completes the Pre-Installation preparations necessary before the installation date.

Pre-Installation

Prior to delivery and installation, verify that the following Checklist Pre-Installation preparations have been made.

If any of the below items are not completed, you may incur additional expenses while they are being done. Reference pages are shown in parenthesis.

- **Dimensions & Clearences. (Page 2-1 & 2-2)**
  Sufficient space exists for the processor and a clear path between the delivery site and the installed location is available.

- **Weight. (Page 2-2)**
  The floor construction where the processor will be installed is sufficient to support the weight of the processor.

- **Ventilation. (Page 2-2)**
  Sufficient ventilation and/or provision for direct exhaust of processing fumes has been provided.

- **Wall Opening. (Page 2-3)**
  If the processor is being installed through-the-wall, a wall opening has been cut per the dimensions shown in Figure 2-2.

- **Electrical. (Page 2-4)**
  Power per specifications is available and has been prepared for connection to the processor.

- **Water Supply. (Page 2-5)**
  An adequate supply of fresh water is available and, if used, the water panel is installed within reach of the processor.

- **Drains. (Page 2-6)**
  Adequate drains exist and have been plumbed to be within reach of the processor.

- **Installation Staff**
  Appropriate electrical, mechanical and plumbing professionals have been contacted as required, and are prepared to assist with the installation on the indicated installation date.

Installation Inspection

The processor is shipped fully assembled. After inspecting for shipping damage, remove the outside crate and inspect the processor for evidence of damage during shipment. If any is found, contact your shipper or maker for further instructions before proceeding.

Installation

An Installation Checklist is located on Page 2-16. Be sure that checklist all appropriate items are completed.

Unskid & Position Processor

Remove the processor from its skid and position it as follows:

1. With the processor still on its skid, remove all side & top covers from the processor.

2. Remove the tywraps that hold the top cross-over assembly in place and remove the crossovers.

3. Remove any tywraps that hold the entry and/or exit rollers in place.

4. Loosen, turn out of position, and retighten the shipping clamps at each end of the develop, fix and wash racks.

5. Remove the Develop, Fix & Wash racks.

6. Remove any packing material from the processor tanks and inspect all fluid lines for signs of debris or obstructions, clean as necessary.

7. Remove the bolts and clamps that hold the processor to its shipping skid.

8. Using at least one assistant, carefully slide or lift the processor off the shipping skid until it rests on the floor.

9. Position the processor as close as possible to its final installed location.

10. Check the replenishment pumps, recirculation pumps and the dryer assembly to be sure they have not loosened during shipment. Tighten all clamps and screws as necessary.

11. If installing through a wall, be certain that the processor is positioned so the masking panels can be attached to the wall surface and butted against the top and side edges of the processor.

Also verify that all racks can be removed and that the cassette cover (if so equipped) can be opened fully when the processor is installed.

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Connect Water Input

Using a high pressure hose or other method appropriate to local plumbing code(s),connect the water panel or water supply (60 PSI max) to the processor water input connection, see Figure 2-4

Connect Drains

Using the instructions and parts included in the drain manifold kit, fabricate a drain manifold as required for your installation.

Route the drain output(s) as required to building drains and/or recirculation containers, see Figure 2-5. Use PVC piping where permitted by local codes; never use copper pipe in a photographic chemical drain system.

Install Replenishment **Containers**

Drains Position the replenisher containers where desired and fill each approximately one-half full with warm water.

Untie the replenishment hoses from the replenishment pump and route the end of each hose to its respective replenishment container.

In operation, replenisher will be drawn from these containers and delivered to the respective processing tank by the replenishment pumps.

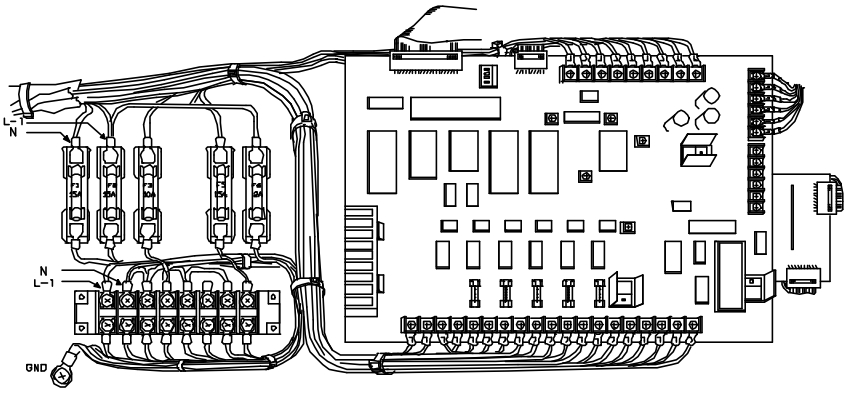

Figure 2-6. Input Power Configurations

Connect Power

WARNING: Be certain that electrical power has been removed from your power disconnect box before connecting processor wiring.

Electrical connections must include an equipment ground and must comply with local electrical codes. A qualified electrician should do these connections.

CAUTION: Use only copper wire for connections. Tighten all terminal block connections to 3570 gm. cm. (20 Ibs. in.)

Check the incoming power at the disconnect box. Available voltage must be 196-264 VAC single phase.

Voltages above or below these values may damage the machine and such damages will not be covered by warranty. If necessary, have a buck/boost transformer installed to correct high or low voltage conditions.

Power connections to the processor are made with the factory installed power cable or on the two terminal strips located inside the power chassis, See Figures 2-3 & 2-6.

CAUTION: Do Not Apply Power until instructed to do so. Applying power at this time may cause damage to the processor

WIRING:

Main electricity is single phase Two wires, 208-240 V, 50/60 Hz 15A, when wiring, the power should be directly and independently supplied by the general power sources, never use the same switch with other electrical apparatus, and please connect ground wire.

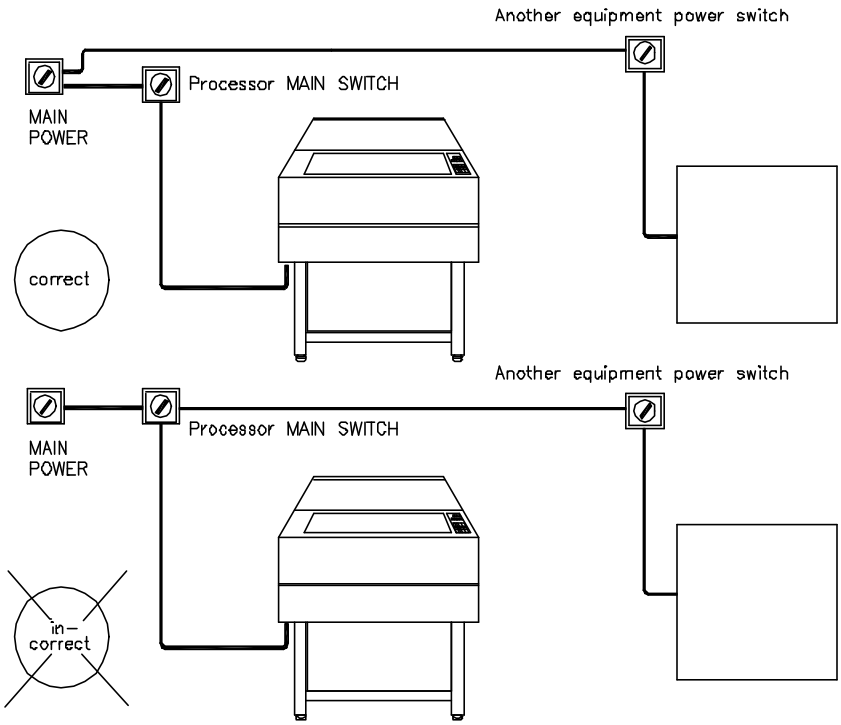

Figure 2-7. Input Power Conform

Level Processor

The processor must be level in both directions. Pro-proceed as follows:

Lay a bubble type level across the developer, fix and wash tanks; adjust the front leveling feet as required to make the processor level front to back. Next lay the level across the width of the developer tank and level the processor from side to side. Recheck the front to back leveling.

Replace Racks

Replace the develop, fix and wash racks in their respective tanks. Be sure that the racks are properly seated in their saddles and are properly engaging the driveshaft gear(s).

Checkout Processor

Racks With the processor in final position, leveled and connected to power and plumbing , perform the following checkout and inspection procedures.

Rinse Processor

A standpipe is inserted into the drain port on the right side of each tank. Insert the standpipe removal tool into the top of each standpipe and unscrew to remove or replace the standpipe.

Remove the standpipes from each of the processing tanks.
NOTE: When installing the standpipe never intermix them as they can contaminate the other tanks.

Shine a light through solution hoses to make sure they are free of dust and debris. Clear as necessary.

Install all wet section processing racks, making sure they are fully seated and properly engage the drive shaft worm gears.

Rinse off the transport racks in the wet tanks. Install the top crossover assembly.

Replace the standpipes, and refill each wet tank with warm water (40 C. [105 F.]) to the overflow point.

Verify that the processor is level by checking that the water level is even with the developer rack rollers in the left to right direction. Adjust feet if necessary.

Apply Power

Turn the processor main switch.

At this time the micro-processor will turn on and the processor will start. If the processor does not start it may be in the ‡Night‡mode. If so, press Key 9 on the control panel touchpad to start the processor.

Check for movement of the solution to verify that the circulation pumps are functioning. If they are not functioning, check for an air lock in the circulation lines, correct before proceeding.

Inspect the drive motor, drive shaft and rack drive gears for meshing and proper operation.

Press key 7 on the control panel keypad to run the replenishment pumps for 1 cycle to pump water from the replenisher tanks up to the processing tanks. Inspect for leaks and correct as necessary.

The replenisher pumps are factory set to provide approximately 300 ml/ minute of replenishment. This value may vary slightly depending on incoming voltage level and replenisher tank locations. For adjustment procedure see Section 5, Service.

Enter Preliminary Apply Values

Refer to Section 3, Operation, and enter the following preliminary values into Program 1 on the microprocessor.

Parameter	**Value**
Developing Time	30 seconds
Developer Temperature	35 degrees C.
Dryer Temperature	50 degrees C.
Day Oxidation	60 minutes X 08 seconds
Night Oxidation	60 minutes X 08 seconds
Exhaustion Replenishment	06 units X 06 seconds
Manual Replenishment	20 seconds

Operational

NOTE: Read these instructions in their entirety before Checkout proceeding with Operational Checkout.

1. Feed several lengths of film or typesetting material into the processor. Observe that each piece transports through each section without folding or scratching.

2. Verify that the DEV LED on the Remote Status Display, located on the control panel, turn ON at the same time as the FEED light on the processor ┗s control panel turns OFF, and remains ON until the material being processed has passed entirely into the fix tank. Note that the following LED┗s on the display indicate the proper location of the material in the processor.

   Shortly after the last piece of material falls into the receiving basket, the processor will return to the standby mode.

3. Verify the operation of the replenishment system. With the developing time set at 30 seconds, the replenishment rate set at 60-10, and material being fed activating two film sensors, there will be approximately 2 minutes 45 seconds between the start of each replenishment cycle.

   With only one sensor activated the interval will be about 5 minutes 30 seconds

4. Verify the developing time. With the developing time set at 30seconds, feed in a short length of material.

   Using a stop watch, verify the time between when the trailing edge of the material enters the develop and when it enters the fix.

   NOTE: As the develop solution is about 35mm (1.5‡) below the dry entrance rollers, begin timing after you see the trailing edge of the material enter the develop at the second roller set. If the developing time is not within the 29-31 second range, refer to the service section for calibration instructions.

5. Verify the operation of the temperature display system. Insert a metal thermometer into the develop tank and record its temperature.

   If the Temperature display is not within .3 degrees C. of the measured temperature, refer to Section 5, Service, for calibration procedures.

Complete Installation

An Installation Checklist may be found on Page 2-16. Use this checklist to verify that all installation steps have been completed before placing the processor into operation.

With the installation checkout completed, install the masking panels if used, and cover any light leaks with lightproof tape.

CAUTION: When draining the develop and fix tanks some solution will remain in the circulation lines and pump head(s). Always thoroughly rinse out the processing tank(s) and circulation lines with clean water when cleaning, installing new chemistry, or following the use of any systems cleaner(s).

The processor is now ready for changing with chemicals and initial startup. See Section 3, Operation.

Complete Checklist

Check off each item as it is accomplished during installation. Do Not attempt to put the processor into service until all of the following are completed.

Reference pages are shown in parenthesis.

- **Inspection (Page 2-8)**
  Thoroughly inspect the packaging and equipment for any indication of shipping damage. Report any damage to your shipper before proceeding.

- **Unskid Processor, Position in installed location. (Page 2-8)**
  Remove the top crossover assembly and processing racks. Using several assistants, position the processor.

- **Connect Water Supply (Page 2-9)**
  Connect the water input to the processor. (60 PSI MAX)

- **Connect Drains (Page 2-9)**
  Assemble drain manifold(s) and install the external drain(s) for the processor.

- **Install Replenishment Containers (Page 2-9)**
  Position and route the replenishment pick-up tubes to the replenishment containers.

- **Connect Power (Page 2-10)**
  Connect the incoming power service to the processor.

- **Level Processor (Page 2-12)**
  Level the processor as required for proper operation.

- **Checkout Processor (Page 2-12)**
  Perform the following steps to prepare the processor for production operation.

- **Rinse Processor (Page 2-12)**

- **Apply Power (Page 2-13)**

- **Enter preliminary values into the microprocessor. (Page 2-13)**

- **Perform Operational Checkout (Page 2-14)**

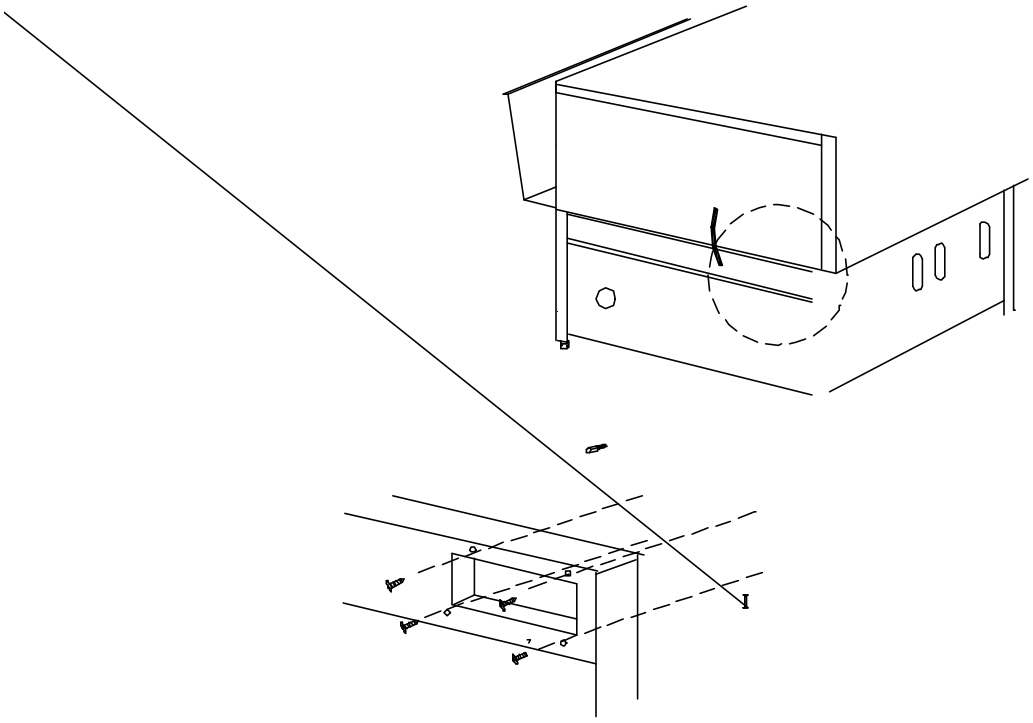

Figure 2.8 Connector At The Machine Stand (Online Machine only)