



SAKURA

# Tissue-Tek<sup>®</sup> Prisma<sup>®</sup>

## Automated Slide Stainer

# Operating Manual

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# INTRODUCTION

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## Safety Instructions

The Tissue-Tek® Prisma® Automated Slide Stainer operating manual includes important instructions and information related to the operating safety and maintenance of the instrument. It is important to read the operating manual carefully prior to the operation of the instrument for the first time and to keep the manual with the instrument at all times.

This instrument has been built and tested with the following safety regulations on electrical measuring control, regulating and laboratory devices:

IEC 61010-1 2<sup>nd</sup> Ed.

CAN/CSA C22.2 No. 61010-1 2<sup>nd</sup> Ed.

UL 61010-1 2<sup>nd</sup> Ed.

In order to ensure safe operation, the operator must always comply with the instructions and warnings contained in the operating manual.

**CAUTION:** The use of iodine on this instrument may cause oxidation on some parts. It is recommended that if iodine must be used in some staining methods, that it be removed immediately upon completion of the stain. Failure to remove the iodine may cause oxidation.

**CAUTION:** Power supply plug is used as mains power disconnecting device. Locate unit where power supply is easily accessible.

**NOTE:** The protective devices installed on both the instrument and accessories may neither be removed nor modified. Only authorized and qualified persons may access and repair the internal components of the instrument.

The safety devices installed in this instrument by the manufacturer only establish the basis for accident prevention. Primary responsibility for accident-free operation lies, above all, with the institution that owns the instrument and, in addition, the designated personnel that operate, service, or repair the instrument.

## Safety Precautions

CAUTIONS and NOTES are provided throughout this manual to indicate levels of potential hazards or helpful information as defined below.

**CAUTION:** Indicates a potential hazard in which failure to follow instructions may result in damage to the Prisma and/or other property.

**NOTE:** Indicates a reminder or other helpful information.

## Safety Features

The Tissue-Tek Prisma Slide Stainer is equipped with several safety features, which help to keep the operator and the instrument safe from harm.

- The robotic arm will stop if the cover is opened.
- The robotic arm does not make access to the stations in the front row when the door is opened.
- Heater circuit is blocked off when the drying unit reaches an abnormal temperature (85°C).
- Heater circuit is blocked when the heating stations reach an abnormal temperature (90°C).
- Heater circuit is blocked off when the fan of the drying unit abnormally stops.
- Heater circuit of the drying unit is blocked off when the fan of the fume control system abnormally stops.
- Electrical circuit is blocked off when excessive current flows into the instrument.

# INTRODUCTION

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## General Description

Tissue-Tek® Prisma® Automated Slide Stainer (Figure 1-A) is an automated, random-access stainer which carries out multiple staining protocols simultaneously. The Prisma features an open single-level design that efficiently moves slides to various solutions for optimal performance.

The Prisma has a 10.4 inch color touch screen display for programming ease and stain monitoring. It is programmable for up to 50 different staining methods, accommodating routine H&E, PAP, Non-GYN, and a variety of special stains or any other user defined protocol. The instrument can be programmed to be started in either a batch or continuous mode. The batch mode allows another process to start only when the previous run is completed. In continuous mode, the user may add basket sets in a random-access mode, maximizing efficiency and throughput. To further maximize throughput, the Tissue-Tek Prisma can be linked to the Tissue-Tek® Film® Coverslipper. This allows for a complete walk away system.

The Prisma consists of the following major components:

**Control and Monitoring System** - Consists of a 10.4 inch color touch screen display where all operations are controlled.

**Solution Reservoir** - Includes start/end stations, drying stations, wash stations, heating stations, solution stations, and PE (programmed end) station.

**Robotic Arm** - A 3-axis transport mechanism for the slide baskets.

**Fume Control System** - Uses activated carbon filters, for effectively removing harmful vapors from the inside of the instrument.

**Link System** - (optional) - Used to link the instrument with the Tissue-Tek Film Coverslipper.

To begin a staining process, the operator places up to three baskets into a designated start station located in the front right of the instrument. The robotic arm picks up the basket set and sequentially moves the baskets to the programmed stations. In the continuous mode, as new basket sets are added, the robotic arm will pick up these baskets and move them to their programmed stations accordingly. The basket sets will finish and be placed in the end stations for removal. If the optional link station and the Tissue-Tek Film Coverslipper are attached to the Prisma, the stained slides will be moved over to the coverslipper to be coverslipped. The closed system design, along with the ventilation system, ensures an essentially fume-free environment.



Figure 1-A

## Physical Characteristics

### Solution Reservoir Area

The solution reservoirs are arranged in a single-level configuration and are positioned in reservoir trays. These trays can hold multiple solution reservoirs to allow for easy placement into and removal from the instrument. The trays are designed to ensure proper orientation when reservoirs are placed into and, when the tray is set into the instrument.

There are three different solution reservoirs: standard, expanded, and special stain.

The standard configuration (Figure 1-B) contains a total of 30 stations with six stations in the front row and eight stations each in three other rows. The standard reservoir accommodates 680-820 ml of solution.

1	2	3	4 (W)	5 (W)	6 (W)	7 (W)	8 (D1)
9	10	11	12	13	14	15	16 (D2)
17	18	19	20	21	22	23	24
Link	25 (E1)	26 (E2)	27 (E3)	28 (S3)	29 (S2)	30 (S1)	

Figure 1-B

The expanded configuration (Figure 1-C) contains a total of 54 stations and is arranged with 6 stations in the front row and eight stations in the other six rows. The expanded reservoir can accommodate 255 to 285 ml of solution.

1	3	5	7 (W1)	8 (W2)	9 (W3)	10 (W4)	13 (D1)
2	4	6	11	12	54	55	14 (D2)
15	17	19	21	23	25	27	29 (D3)
16	18	20	22	24	26	28	30 (D4)
31	33	35	37	39	41	43	45
32	34	36	38	40	42	44	46
Link	47 (E1)	48 (E2)	49 (E3)	50 (S3)	51 (S2)	52 (S1)	

Figure 1-C

The special stain reservoirs can be combined with the standard or expanded configurations. The special stain configuration (Figure 1-D) includes eight solution reservoirs in a special removable reservoir tray and two heated solution reservoirs (only available on product # 6131). The special stain reservoirs accommodate a solution volume of 160 to 180 ml.

1	3	5	7 (W1)	8 (W2)	9 (W3)	10 (W4)	13 (D1)
2	4	6	11	12	54	55	14 (D2)
15	17	19	21	23	25	27	29 (D3)
16	18	20	22	24	26	28	30 (D4)
31	33	35	37	39	41	43	45
32	34	36	38	40	42	44	46
Link	47 (E1)	48 (E2)	49 (E3)	50 (S3)	51 (S2)	52 (S1)	

Figure 1-D

Also included in the solution reservoirs are the start/end stations, wash stations, and dryer stations.

**Start/End Stations** - the start/end stations are located in the front row of the reagent reservoirs. These reservoirs have a handle for easy removal and can be programmed as 1 to 3 start stations and up to 5 end stations. The reservoir volume is 830 ml.

**Wash Stations** - the wash stations are located in the right rear of the instrument. A maximum of four and a minimum of zero can be used at one time, depending on the setup. The reservoir volume is 850 ml.

**Drying Stations** - There are a total of two drying stations programmable from 30° C (86 ° F) to 65° C (149°F)

# INTRODUCTION

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## Robotic Arm

The robotic arm (Figure 1-E) can accommodate up to three baskets of twenty slides each. Each basket has a basket adapter that attaches to the basket holder on the robotic arm. The basket holder can be modified to accommodate one to three baskets using either the 20-slide basket or the 10-slide basket. The function of the robotic arm is to move slide baskets to specific stations on the user-defined programs. The robotic arm moves in an x, y, and z-axis and efficiently carries baskets to the programmed stations.



Figure 1-E

## Fume Control

The activated carbon filters (Figure 1-F) are part of an effective fume control system. As air circulates throughout the inside of the instrument, fumes generated by various solutions are captured and extracted by the carbon filter. The fume control housing can be accessed at the back, inside of the instrument. It is recommended that the carbon filters be replaced after two weeks with routine operation of the stainer.



Figure 1-F

## Water Supply

One water flow line is provided to supply water to the water supply manifold for all of the wash stations. The water flow rate is adjustable through an adjustment valve located inside the instrument (Figure 1-G) and is used to increase or decrease the pressure of the water flowing to the instrument.



Figure 1-G



## User Interface

### Power Switch

The power switch (Figure 1-H) is located on the lower right side of the instrument. The power switch also acts as an emergency stop switch.



Figure 1-H

### Display Screen

The display screen (Figure 1-I) is a 10.4 inch VGA (Video Graphics Array) TFT color touch screen. It is located on the right side of the instrument on an adjustable arm. All operating functions are controlled through the display screen (e.g. displays predicted end time, run numbers, and staining methods, etc.)



Figure 1-I

### Compact Flash

The compact flash (Figure 1-J) is located on the left side of the display screen. It is used to store programs, solution configurations, solution names, etc.



Figure 1-J

### External Interface

The external interface (Figure 1-K) is located on the right side of the instrument and includes the following:

- Power outage detection
- External Alarm output
- Printer output (RS232)
- Ethernet (10-BaseT) port



Figure 1-K

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## Power Cord

The power cord (Figure 1-L) is located on the instrument right side panel and is used to connect the instrument to a power source. The power cord must be plugged into an appropriately grounded AC electrical outlet.

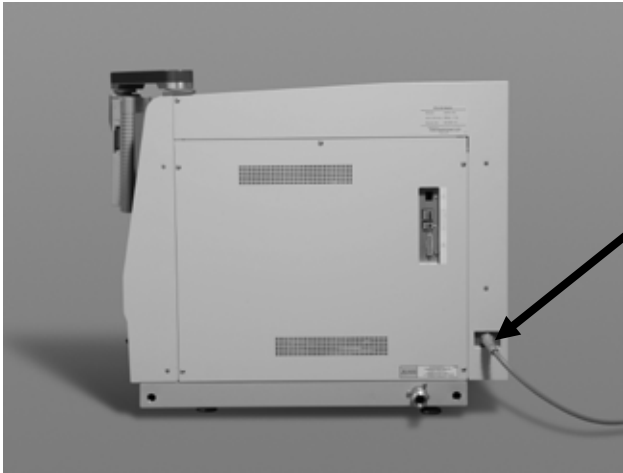


Figure 1-L

## Drain Hose Port

The drain hose port (Figure 1-M) is located on the rear instrument panel and allows for sufficient draining of the Prisma.



Figure 1-M

## Specifications

### Models

Model	Name/Description
6130	Tissue-Tek® Prisma® Automated Slide Stainer (115 VAC) (USA)
6131	Tissue-Tek® Prisma® Automated Slide Stainer with Special Stains (115 VAC) (USA)
6132	Tissue-Tek® Prisma® Automated Slide Stainer (230 VAC) (Europe)
6133	Tissue-Tek® Prisma® Automated Slide Stainer with Special Stains (230 VAC) (Europe)
6120	Tissue-Tek® Prisma® Automated Slide Stainer (100 VAC) (Asia)
6121	Tissue-Tek® Prisma® Automated Slide Stainer with Special Stains (100 VAC) (Asia)

### Power Ratings and Requirements

Model	Voltage	Frequency	Amps
6130	115 VAC ± 10% @ <15A	60 Hz	9.0A
6131	115 VAC ± 10% @ <15A	60 Hz	10.0A
6132	230 VAC ± 10% @ < 7A	50/60 Hz	4.5A
6133	230 VAC ± 10% @ < 7A	50/60 Hz	5.0A
6120	100 VAC ±10% @ <15A	50/60 Hz	8.0A
6121	100 VAC ±10% @ <15A	50/60 Hz	9.0A

## Safety Standards

Complies with IEC 61010-1 2nd ed., CAN/CSA C22.2 No. 61010-1, UL 61010-1

CE registered in compliance with the requirements of EMC Directive, LV Directive in Europe, In Vitro Diagnostic Device Directive.

### Dimensions

Centimeters: 125 (W) x 71.3 (D) x 63 (H) cm  
 Inches: 49.3 (W) x 28 (D) x 24.8 (H) in.  
 Weight: 150 kg (330 lbs.)

### Operating Conditions

Operating Temperature: 10° C to 40° C (50° F to 104° F)  
 Relative Humidity: 30-85% (non-condensing)  
 Atmospheric Pressure: 80 to 106 kPa

### Storage Conditions

Storage Temperature: -20° C to 65° C (-4° F to 149° F)  
 Relative Humidity: 20-90% (non-condensing)  
 Atmospheric Pressure: 50 to 106 kPa

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## Water Supply

Water Pressure:  
Maximum Static Pressure: 0.83 Mpa  
Dynamical Pressure: 0.098 to 0.441 Mpa  
Water Temperature: Lower than 30° C (86 ° F),  
no freezing  
Diameter of Plumbing: More than 1.27cm (1/2")

## Drain

Drain: Gravity  
Drain Capability: More than 15 liters per minute,  
anti-backflow pressure  
Diameter of Plumbing: More than 40A (1 1/2")

## Reservoir Capacity/Fill Volumes

Type:  
Standard Reservoirs: (total) - 30  
Expanded Reservoirs: (total) - 54  
Special Stain Reservoirs\* - 8  
Wash Reservoirs - 4  
Dryer Stations - 2  
Heater Stations \* - 2

Capacity:  
Standard Reservoirs: 680-820 ml  
Expanded Reservoirs: 255-285 ml  
Wash Reservoirs: 850 ml (volume up to the  
overflow level)  
Start/End Reservoirs: 690-830 ml  
Special Stain Reservoir: 160-180 ml  
Heater Solution reservoir\*: 240-250 ml

\*-Only for model # 6131

## Performance Data:

### Batch Operation:

Up to 60 glass slides in three baskets. (3 baskets = 1 basket set)

### Continuous Operation:

Basket sets can be continually loaded on demand as the start station(s) become available for loading. Up to 60 glass slides in three baskets for each loading station.

### Programs/Methods

Up to 50 programs can be stored in memory.  
Up to 50 steps can be programmed for each method.

## **Solution Names**

Up to 100 solution names (20 characters per name) can be stored in memory.

## **Staining Method Names**

Up to 50 staining method names can be stored in memory.

## **Solution Configurations**

Up to 50 solution configurations can be stored in memory.

# INTRODUCTION

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# INSTALLATION

## General Information

This section provides detailed installation and setup instructions for the Tissue-Tek® Prisma® Automated Slide Stainer. The installation steps must be followed correctly to ensure proper operation and service. Read this operating manual carefully before attempting to operate the instrument. Follow all instructions carefully.

The Tissue-Tek Prisma is a precision instrument and must be handled accordingly. Rough handling or dropping the instrument will disturb or damage internal components. Always handle the instrument with care.

Select a place where sufficient clearance can be provided around the instrument. Ample working space is necessary in front and on top of the instrument.

## Environmental Factors

As with all sensitive electronic instruments, prolonged exposure to excessive humidity and temperature should be avoided. Temperature and humidity should be held relatively constant. The ambient temperature for operating the instrument is 10° C to 40° C (50° F to 104° F). The ambient operating humidity range is 30-85% relative humidity.

## Unpacking

### *Removing the Outer Shipper*

Inspect the carton and make sure there are no visible signs of damage. If visible signs of damage are evident, immediately file a complaint with the carrier and notify Sakura Finetek USA Technical Support Department. In countries other than the USA, contact the nearest authorized Sakura distributor or representative.

1. If no visible signs of damage are evident, remove the protective tie wraps (Figure 2-A) securing the outer shipper box to the pallet.



Figure 2-A

2. Remove the lid of the box (Figure 2-B).



Figure 2-B

3. Remove the Styrofoam pieces surrounding the instrument. The outer cardboard box may now be lifted up and away from the instrument.
4. The instrument will be positioned on the pallet and covered by a protective wrapping and Styrofoam packing material. If the Styrofoam has not already been removed, remove it from the corners of the unit. Remove the protective wrapping exposing the instrument.
5. Four L-shaped brackets anchor the pallet to the instrument. Remove all four bolts that fasten the bracket to the instrument.

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6. Remove the nut located on the underneath portion of the pallet using a wrench to hold the bolt (Figure 2-C).



Figure 2-C

7. Remove all tape and packing foam from the outside of the instrument.
8. Open the main cover on the instrument and locate the accessory box positioned inside.
9. Cut the tie-wraps holding the accessory box. Remove the tie-wraps carefully from around the support post.
10. Remove the accessory box from inside the instrument (Figure 2-D).



Figure 2-D

11. Carefully lift the instrument from the pallet and place it on a sturdy, level surface capable of supporting 150 Kg (330 lbs.)

**CAUTION:** The instrument is very heavy and large, therefore, it is strongly recommended that it always be lifted and transported by at least four people, one positioned on each corner of the instrument.

**CAUTION:** Always transport the instrument in an upright position.

12. Remove any adhesive tape from the outside of the instrument.
13. Open the cover and remove all tape and packing material (Figure 2-E).



Figure 2-E

14. Remove the packing and adhesive tape from the display.
15. Remove the power cord from the plastic bag.

**NOTE:** Be certain that all tape and foam packing material is removed from the instrument prior to operation.



## Unpacking Check List

When opening the accessory box, confirm that all accessories have been included with the instrument.

- r Operating Manual (1)
- r Warranty Card (1)-located inside the operating manual (USA only)
- r Slide Baskets (10)
- r Slide Basket Adapter (10)
- r 820 ml Solution Reservoir (22)
- r 830 ml Load/Unload Reservoir (6)
- r 850 ml Wash Reservoir (4)
- r 3-position Reservoir Lid (3)
- r 4-position Reservoir Lid (3)
- r 3-position Reservoir Tray (3)
- r 4-position Reservoir Tray (3)
- r Activated Carbon Filters (2/cs)
- r Compact Flash Card (1)
- r Control Panel Protection Sheet (installed) (1)
- r Drain Hose (1)
- r Drain Hose Clamp (1)
- r Drain Elbow (1)
- r Water Supply Hose Set (1)
- r Station Labels (1)
- r Wash Station Plug (4) (4 installed)
- r Single Reservoir Lid (6)

Optional Accessories –Special Stain Set (If Product # 6131 was ordered)

- r 10-slide Basket (10)-6137
- r 10-slide Basket Adapter (10)-6138
- r 10-slide Basket Load/Unload Adapter (3)-6139
- r 160 ml Special Stain Solution Reservoir (8)-6140
- r Heated Solution Reservoir (2)-6141
- r Special Stain Reservoir Lid (8)-6144
- r Special Stain Reservoir Tray (1)-6156

Optional Accessories (Link System)-For use with the Tissue-Tek Film Automated Coverslipper. Tissue-Tek Link System (1)-6134 consists of:

- r Installation Bar (1)
- r Bolts, SW, W (5 Each)
- r Communication Data Cable (1)
- r Compact Flash (program for connection) (1)

If any of these items are missing, contact the Technical Support Department at Sakura Finetek USA. In countries outside the USA, contact the nearest Sakura distributor or representative.

## Positioning the Instrument

Locate the instrument in a well-ventilated area, avoiding exposure to corrosive vapors and extreme variations in temperature or humidity. The area should be clean, dust free, and have a firm, level surface capable of holding at least 150 kg (330 lbs.) of weight. Be sure it is near a power source that meets the electrical requirements specified on the rating label located on the right side of the instrument. The power receptacle must be grounded and should be a dedicated line. Avoid proximity to direct sunlight, open windows, ovens, hot plates, open burners, or radiators.

## Leveling the Instrument

Once the instrument is placed on a sturdy, level surface, it is important that it is leveled.

Using a wrench, adjust the feet by turning the nut on each foot. Turning the nut clockwise will raise the instrument, counter-clockwise will lower the instrument.

Place a level on the inside, middle of the instrument and adjust the feet until the instrument is level.

**NOTE:** Being certain that the instrument is level will ensure proper water drainage and overall instrument operation.

# INSTALLATION

## Positioning the Accessories

### Installing the Activated Carbon Filters

**CAUTION:** Make sure that the instrument is switched off and the power cord is unplugged before beginning.

1. Open the main cover of the instrument.
2. Locate the filter cover located on the rear panel inside of the instrument.
3. Open the filter cover by pressing down on the button located at the top center of the filter cover (Figure 2-F).



Figure 2-F

4. Lower the filter cover.
5. Remove the plastic wrapping from both carbon filters.
6. Place the carbon filters side by side in a horizontal position in the appropriate location (Figure 2-G).



Figure 2-G

7. Push firmly against the filter cover to close and latch the hook.

**NOTE:** It is recommended that the carbon filters be replaced periodically. See *Section 6, Care of the Instrument* for maintenance schedule.

### Installing the Water Drain Hose

**CAUTION:** The drain hose should be installed before the water is supplied to the instrument.

1. Locate the drain hose port located on the lower, rear of the instrument (Figure 2-H).



Figure 2-H

2. Insert the elbow fitting.
3. Place the drain hose assembly onto the elbow fitting and tighten the connecting hose clamp to ensure that it is properly seated.
4. Attach the drain hose to the drain hose assembly. Be sure that the clamped end of the hose attaches to the elbow. Tighten the clamp by using a Phillips screwdriver. The other end of the drain hose should be routed to a floor or sink drain that is capable of draining at a rate of 15 liters (4 gallons) per minute.

**CAUTION:** Make sure that the entire length of the drain hose is lower than the drain port. It should be straight and not twisted or looped. Do not extend the drain hose by coupling it with another hose. The end of the drain hose should be at least 4 inches (100 mm) or higher from the water surface in the floor or sink drain.

## Installing the Water Supply Hose

1. Connect the pre-assembled water supply hose to the water supply port located at the bottom, right of the instrument (Figure 2-I).



Figure 2-I

2. Connect the other end of the hose to a faucet or water source.

**NOTE:** Use plumbers tape to be certain that the water supply hose is securely connected to the instrument.

**CAUTION:** When installing the water supply hose, make sure it is securely connected to the instrument and to the faucet. Failure to do so may allow the water pressure to loosen the connection and cause an overflow.

**CAUTION:** It is recommended that the water supply to the instrument be turned off when the laboratory is left unattended, i.e. overnight or weekends.

## Installing Solution Reservoirs

### Start/End Stations

1. Open the door located in the front of the instrument by pressing on the magnetic latch.
2. Remove the solution reservoirs with handles from the accessory box.

3. Grasp the reservoir by the handle and insert it into one of six positions located in the front row of the solution reservoirs (Figure 2-J).



Figure 2-J

4. Close the front door.

### Dryer Stations

**CAUTION:** Make sure that the instrument is switched off and the power cord is unplugged before beginning.

1. Remove the 2-piece drying station assembly from the accessory box.
2. Place the large piece inside the drying station (Figure 2-K) using the diagram provided near the drying station as a guide.



Figure 2-K

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3. Place the slotted piece over the top of the larger piece (Figure 2-L).



Figure 2-L

4. Repeat the procedure in the second drying station.

## Wash Stations

The wash stations are positioned in the right rear of the solution reservoirs. A maximum of four and a minimum of zero wash stations may be used at one time. The factory default setting is set at four wash stations. The solution configuration may need to be set up before a decision is made to make changes to remove the factory set wash stations.

1. Position the wash stations with the opening in the rear of the reservoir toward the back (Figure 2-M). This will allow for the water to overflow from the reservoir into the drain.



Figure 2-M

## To transform a wash station to a solution station:

1. Remove the wash reservoir. Turn the wash cap counter-clockwise and remove the wash nozzle and gasket from the instrument (Figure 2-N).

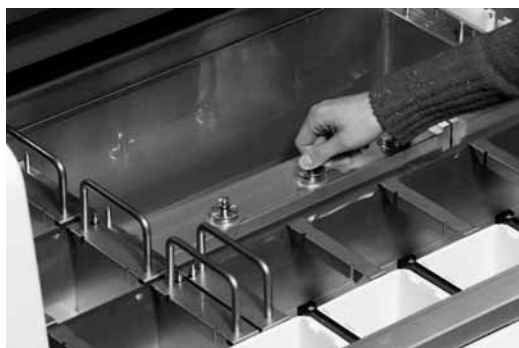


Figure 2-N

2. Replace the wash nozzle with a wash station plug and secure it in place using the wash cap.
3. Place a solution reservoir at that position.

## To transform a solution station to a wash station:

1. Turn the wash cap counter-clockwise and remove the wash cap, and gasket.
2. Replace the wash station nozzle and secure all items in place.
3. Place a wash station at this position.

**NOTE:** Verify that the station configuration reflects the proper wash positions.

### Heating Stations

The heating stations are positioned to the right of the solution reservoirs at the front of the instrument.

**NOTE:** Heating stations are only available on product #6131.

1. Position the heating stations as shown in Figure 2-O.



Figure 2-O

### Solution Reservoirs

The Prisma comes with six solution reservoir trays. The trays can be easily removed to fill and position the solution reservoirs.

1. Grasp a reservoir tray by the handles located on each side and remove the tray by lifting it straight out (Figure 2-P).



Figure 2-P

**NOTE:** The solution reservoir trays are configured to be positioned only one way in the instrument. This ensures proper orientation.

2. Position the tray on a level surface and place the solution reservoir in the tray.

**NOTE:** The solution reservoirs are designed to fit into the reservoir trays in one direction to ensure proper orientation.

**NOTE:** There are two different solution reservoir trays: a three-position tray and a four-position tray. Appropriately place solution reservoirs.

3. The solution reservoirs can be filled with solutions now or placed back into the instrument (Figure 2-Q) for filling at a later time.



Figure 2-Q

# INSTALLATION

## Installing Compact Flash

The compact flash card is used to store programs, solution configurations, solution names, etc. It is to be positioned on the left upper corner of the color touch screen.

1. Turn the instrument off using the power switch.
2. Position the compact flash card into the designated area (Figure 2-R).



Figure 2-R

3. Press flash card in fully.
4. Power instrument on with the power switch.

## Installing 20-Slide Load/Unload Adapter

If using the expanded solution configuration, an adapter must be added to the start stations to alert the instrument that only 20 slides will be run.

1. Remove the three-arm basket adapter to accommodate only one basket (Figure 2-S).

**NOTE:** If the three-arm basket is not removed, the basket holder may become misaligned resulting in a robotic arm malfunction.

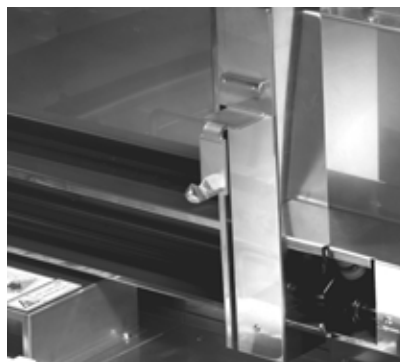


Figure 2-S

2. Place insert into start stations (Figure 2-T).



Figure 2-T

**NOTE:** The instrument will automatically detect that only one 20-slide holder is being placed into the start station.

## Electric and Link Connections

### Connecting the Power Cord

1. Make sure the power switch is in the "O" position.
2. Locate the power cord positioned on the rear of the instrument.
3. Plug the other end of the power cord into an appropriate AC electrical outlet. The outlet should be a dedicated line and it must be grounded.

**CAUTION:** Do not connect or disconnect power supply with wet hands. Doing so may cause electrical shock.

**CAUTION:** Connection/Disconnection of the power cord by holding any other part but the plug body may cause fire or electrical shock.

4. Switch the power switch to the on position labeled "I".

### Setting up the Link Connection (Optional)

A data cable is part of the optional link connection that connects the Prisma to the Tissue-Tek Film Coverslipper.

1. Connect one end of the data cable to the link inlet located on the lower left of the instrument, and the other end to the rear of the Film Coverslipper.

**NOTE:** Optional link station must be installed by an authorized Sakura Representative.

### Installation of Special Stain Accessories for Product #6131 (Prisma with Special Stains)

If product #6131 is being used, a reservoir tray including eight special stain reservoirs comes as a standard accessory.

1. Remove the standard reagent reservoir tray from the instrument (the row directly underneath the wash stations).
2. Replace the reservoir tray with the special stain reservoir tray (Figure 2-U).



Figure 2-U

3. Fill the reservoirs with the desired solutions.
4. Remove the three-arm basket adapter to accommodate only one basket (Figure 2-V).

**NOTE:** If three-arm basked adapter is not removed, the basket holder may become misaligned resulting in a robotic arm malfunction.

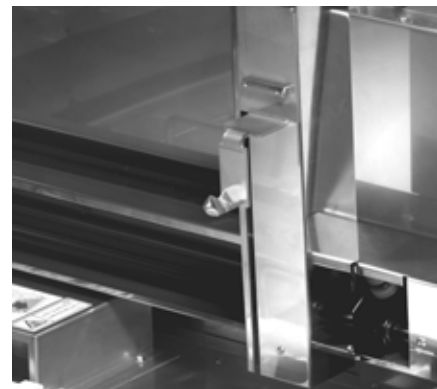


Figure 2-V

# INSTALLATION

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5. Place insert into start stations (Figure 2-W) that indicate the use of the special stain 10-slide basket.



**Figure 2-W**

**NOTE:** The insert must be placed into the start stations if a 10-slide basket is used. The instrument will automatically sense that a 10-slide basket is being placed into the start station.

**NOTE:** It is important to remove the special stain reservoir tray if running other configurations that do not include those reservoirs. If left in place, the other configurations will not show up.



# CUSTOMIZATION OF SETTINGS

## General Information

The Tissue-Tek® Prisma® Automated Slide Stainer allows for the customization of a number of system options and the configuration of certain operating parameters to suit the specific requirements of a given installation. The Prisma Menu provides the means of viewing and modifying current system settings.

This section outlines the procedures to perform initial setup of Tissue-Tek Prisma system settings. Factory default settings for each parameter are listed where applicable.

Perform the following setup procedures prior to initial use of the system. In addition, perform these procedures as needed to reset system settings, add or remove system users, etc.

## Accessing the Menu

**Note:** You must login as an Administrator in order to modify system settings and operating parameters.

### To access the Menu:

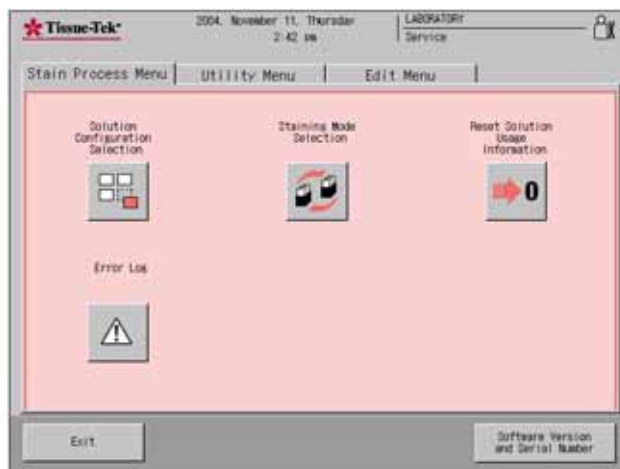
1. From the main system screen (Stain Process Monitor screen), touch the **Log On** button. The Enter Password dialog box displays.
2. Use the touch keypad to enter your password and then touch the **Enter** button.
  - The default password for the system is set to "100000".

**Note:** For security reasons, your password will display on the screen, as entered, as a series of asterisks.

- If your login is *unsuccessful*: Re-enter your password and then press the **Enter** button to resubmit your login request.
- If your login is *successful*: The Stain Process Monitor screen displays.



3. Touch the **Menu** button to display the main menu.



The Tissue-Tek Prisma Menu consists of three tabbed pages that provide access to the following submenus **Utility Menu**, **Edit Menu**, and **Stain Process Menu**. System configuration and setup are performed from the Utility and Edit menus. The Stain Process Menu is used for system operation and is described in *Section 4, Operating Instructions*.

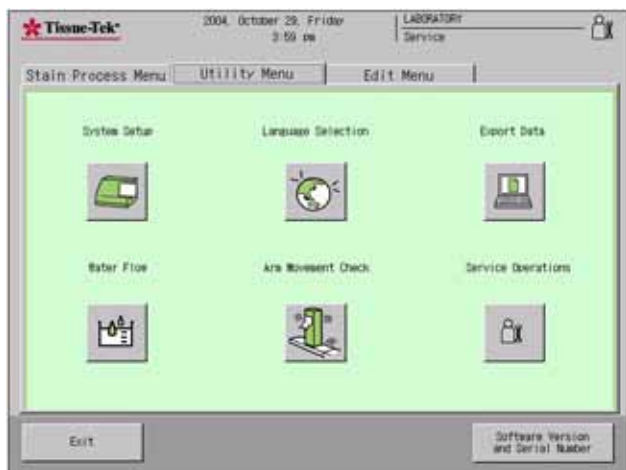
# CUSTOMIZATION OF SETTINGS

## Configuring System Utilities

The Utilities Menu is used to configure and setup Tissue-Tek Prisma system options.







To access the Utility Menu:

1. Log on.
2. From the main Menu, touch the **Menu** button and then touch the **Utility Menu** tab.



The following options are available from the Utilities Menu.

### Utility Menu

	<b>System Setup</b> – allows for the configuration of user-selectable options and operating parameters (see System Setup on page 3-2)
	<b>Language Selection</b> – allows the user to select the system display language. Seven language options are available.
	<b>Export Data</b> – provides options for exporting Tissue-Tek Prisma data to a compact flash card or to a printer.
	<b>Water Flow</b> – allows the user to set the run-up time in the water stations.
	<b>Arm Movement</b> – provides the user with a means to verify function of the robotic arm
	<b>Service Operations</b> – this option is only available to certified Sakura service personnel.

## System Setup

The System Setup option from the Utility Menu lets you make changes to “user-selectable” and “user-specified” system settings and parameters.

1. From the main menu, touch the **Utility Menu** tab, and then touch the **System Setup** button.
  - The System Setup screen displays.



The System Setup screen allows users to adjust system date and time, set user passwords and access authorizations, manage fume filters and change the institution name that appears on each screen.

2. Make changes to the following system settings/parameters, as desired:
  - **Date Format** – sets the format for the date display shown at the top of the instrument display screens. Touch the option button until the desired format displays. Available choices are Year/Month/Day, Month/Day/Year and Day/Month/Year. The factory default setting is **Year/Month/Day**.
  - **Time Format** – sets the format for the time display shown at the top of all instrument display screens. Touch the option button until the desired format displays. Available choices are 12 hour format and 24 hour format. The factory default setting is 12 hour format.
  - **Key Sound** – sets the sound off or on. If the sound is on, an audible tone is heard each time a key or button is touched on the screen. The factory default setting is **ON**.

- **Alarm Tone and Volume** - sets the tone and volume for system alarms. Available choices are Soft and High, Loud and Low, Loud and High and Soft and Low.

The factory default setting is Loud and High.

- **Export Data** – sets the destination path for data export. Available choices are Off, Memory Card or Printer.

The factory default setting is Memory Card.

- **Coverslipper Link** – establishes a link between the Tissue-Tek Prisma and the Tissue-Tek Film Coverslipper for those institutions using both instruments. Available choices are Not in Use or In Use. This option is only available if the Coverslipper link is installed.

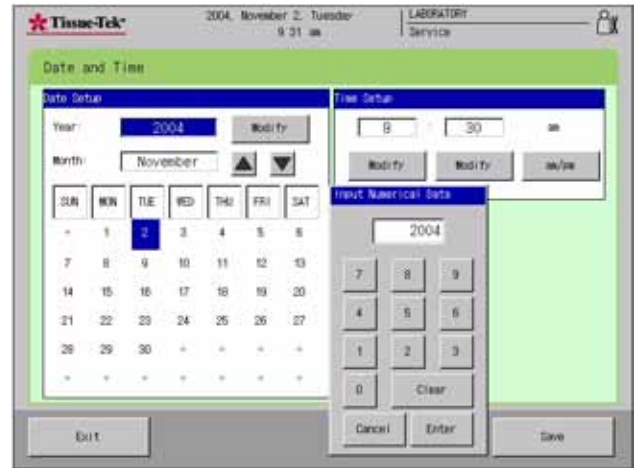
The factory default setting is Not in Use.

## Changing Date and Time

1. From the System Setup screen, touch the **Date and Time** button.
  - The Date and Time Screen displays.



2. Under **Date Setup**, touch the **Modify** button to change the Year setting. An input screen displays. Touch the **Clear** button to clear the year being displayed and then use the keypad to touch the appropriate numbers to represent the current year. If you make a mistake, use the clear button to clear the selection and start over. Touch **Enter** to save your changes or **Cancel** to exit the screen without saving.

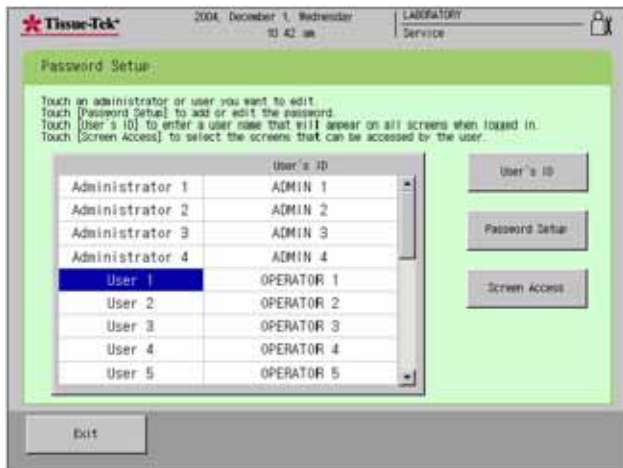


3. Use the up and down arrows to change the current month.
4. Use the touch screen to select the current date.
5. Under **Time Setup**, touch the **Modify** button beneath the current hour to modify hour.
6. Touch the **Modify** button beneath the current minutes to modify minutes.
7. Touch the **am/pm** button to change from am to pm.
8. Touch **Save** and then **Exit** to save your settings or
  - Touch **Exit** to leave the screen without saving your changes.

## Setting User Names and Passwords

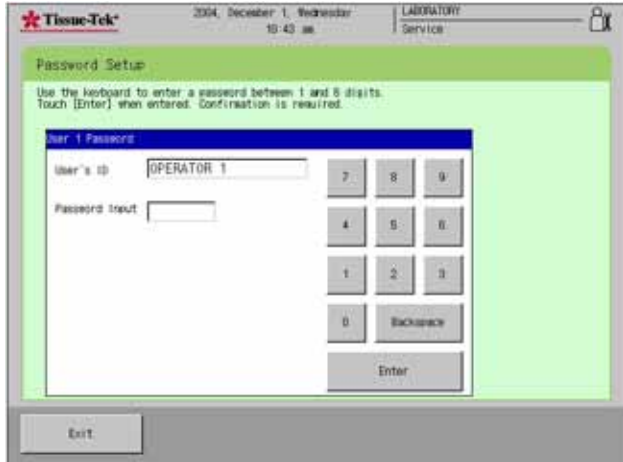
1. From the System Setup screen touch the **Password Input** button.
  - The Password Setup screen displays. This screen allows you to create user ids (user id is the name that appears on all screens when a given user is logged in) and passwords, grant or deny screen access and modify existing users. The system allows for four Administrators and twenty Users.

# CUSTOMIZATION OF SETTINGS



## To change User ID

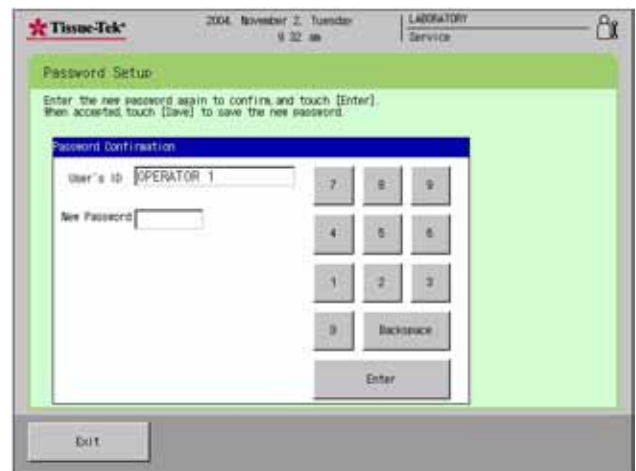
1. From the Administrator/User list on the left of the screen, select the user or administrator for whom you want to create a user id then touch the **User's ID** button.
  - The Create User's ID screen displays.



2. Touch the **Clear** button to erase the existing name and then use the keypad to enter the new ID.
  - Touch the **Save** button to save your changes and return to the Password Setup screen or
  - Touch **Cancel** to return without saving your changes.

## To add or change user passwords:

1. From the Administrator/User list on the left of the Password Setup screen, select the user or administrator for whom you want to add or change passwords and then touch the **Password Setup** button.
  - The Password Setup screen displays.



2. Use the keypad to enter a numeric password between 1 and 6 digits and then touch the **Enter** button. The Password Confirmation screen displays.
3. Use the keypad to re-enter the new password and touch **Enter**.
  - Touch **Save** to save the new password and return to the Password Setup screen or
  - Touch **Exit** to return without saving.

## To grant screen access:

Users can be allowed or denied access to certain system screens and functions.

1. From the Administrator/User list on the left of the Password Setup screen, select the user or administrator for whom you want to change screen access permissions and then touch the **Screen Access** button.
  - The Password Setup>Screen Access screen displays. This screen displays three tabbed pages; Stain Process, Utility and Edit. Each tabbed page enables the administrator to grant or deny a user access to specific functions.

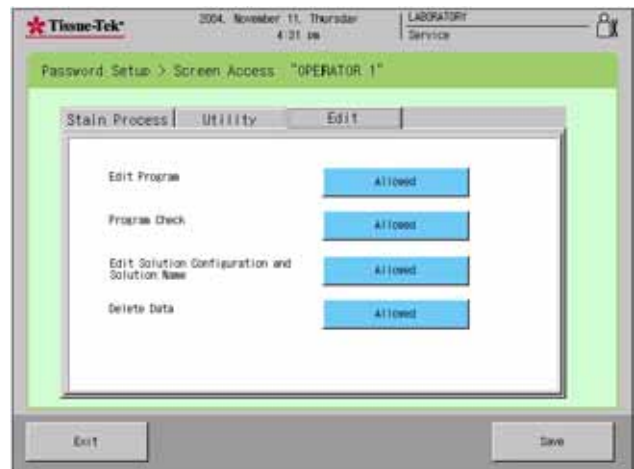


**Stain Process** – sets permissions for Staining Mode Selection, Abort Stain Process, Reset Solution Usage Information, and Solutions Configuration Selection. The default setting for each function is Allowed. Touch each function as necessary to change permissions from **Allowed** to **Not Allowed**. Touch **Save** to save settings and return to the Password Setup screen or touch exit to return without saving changes.

**Utility** – sets permissions for System Setup, Export Data, Language Selection, Water Flow. The default setting for each function is Allowed. Touch each function as necessary to change permissions from allowed to Not Allowed. Touch Save to save settings and return to the Password Setup screen or touch exit to return without saving changes.



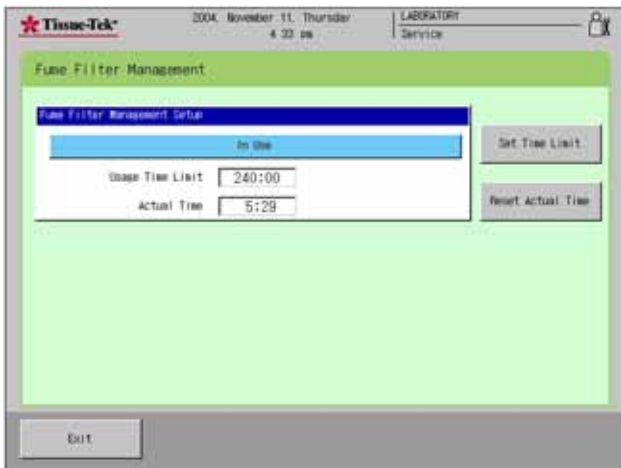
**Edit** – sets permissions for Edit Program, Program Check, Edit Solution Configurations and Solutions Name and Delete Data. The default setting for each function is Allowed. Touch each function as necessary to change permissions from allowed to Not Allowed. Touch Save to save settings and return to the Password Setup screen or touch exit to return without saving changes.



# CUSTOMIZATION OF SETTINGS

## Changing Fume Filter Management Settings

1. From the System Setup screen touch the **Fume Filter Management** button.
  - The Fume Filter Management screen displays.



Fume Filter Management can be enabled or disabled.

### To use fume filter management:

- Toggle the button at the top-left of the screen until it reads In Use.
- To disable fume filter management, toggle the button until it reads Not in Use.

### To adjust fume filter usage time limit:

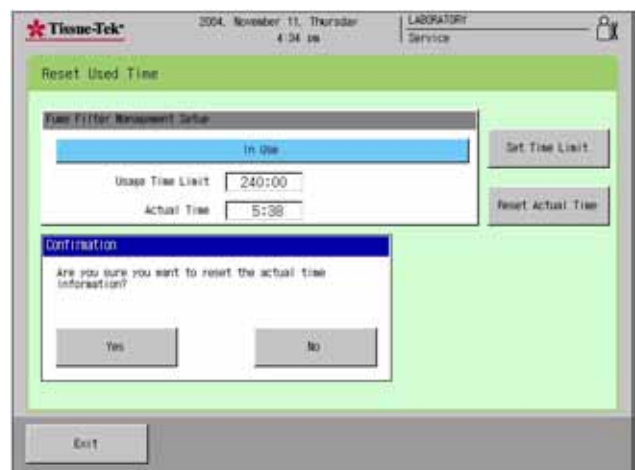
1. Touch the Set Time Limit button.
  - An input dialog box appears.  
The default Usage Time Limit is 240 hours.



2. Touch **Clear** to clear the current setting and then use the touch keypad to enter the new setting.
  - Touch **Enter** to save the new setting and return to the Fume Filter Management Setup screen or
  - Touch **Cancel** to return without saving new settings.

### To reset actual time

1. To reset the actual usage time for the current filters, touch the **Reset Actual Time** button.
  - A confirmation dialog box appears.



- Touch **Yes** to confirm that actual time is to be reset to 0 or
- **No** to abort the action.

## Creating or Changing Institution Name

The name of the institution that appears on the top of each of the instrument display screens can be modified as follows:

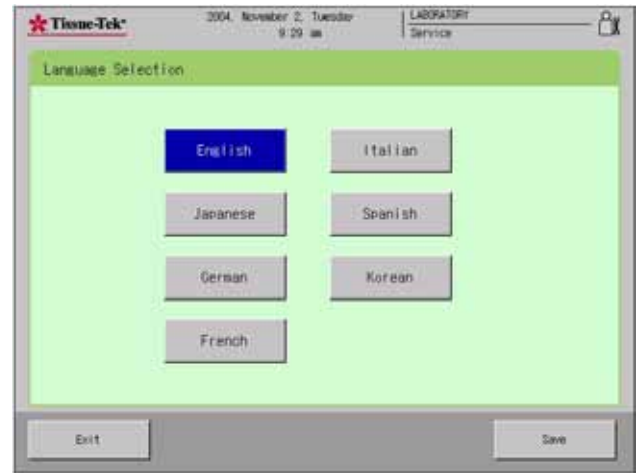
- From the System Setup screen touch the **Institution Name** button.
  - The Create Institution Name screen displays.



- Touch **Clear** to clear the current display and then use the touch keypad to enter a new name up to twenty characters long.
  - Touch **Save** to save changes and return to the system setup screen or
  - Touch **Cancel** to return without saving changes.

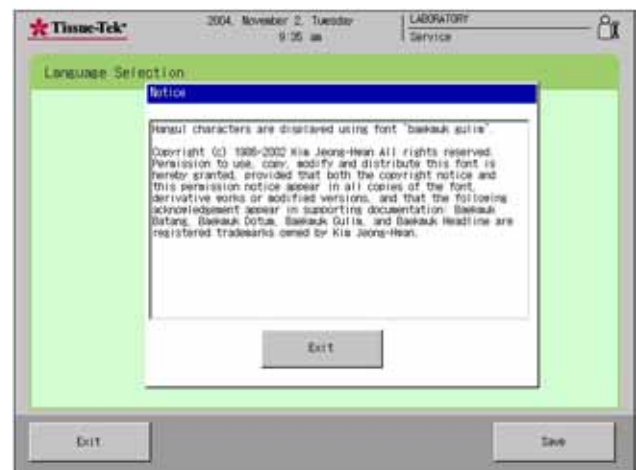
## Selecting System Language

- From the main menu, touch the **Utility Menu** tab, and then touch the **System Language** button.
  - The Language Selection screen displays.



- Use the touch screen to select the language to be used for system display. Options are English (default), Japanese, German, French, Italian, Spanish and Korean.
  - Touch **Save** to save the selection and return to the Utility menu or
  - Touch **Exit** to return without saving changes.

**Note:** If Korean is selected, a special notice appears regarding copyright of the font used. Touch Exit to close the Notice screen.



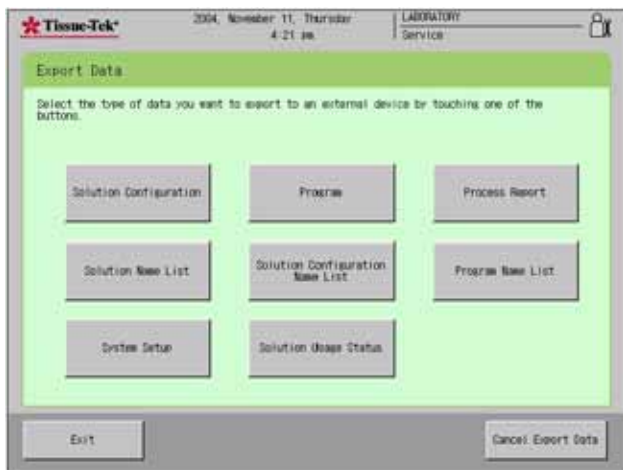
# CUSTOMIZATION OF SETTINGS

## Exporting System Setup Data

Once system setup procedures have been completed, data can be exported to either a compact flash card or a printer. It is recommended that data be exported into one of these formats so that a record of system setup settings is maintained. This data can be used to recreate system settings in the event of system failure or can be used to set up similar systems.

### To export data:

1. From the main menu, touch the **Utility Menu** tab, and then touch the **Export Data** button.
  - The Export Data screen displays.



### To export Solution Configuration(s)

1. From the Export Data screen, touch the **Solution Configuration** button.
  - A Solution Configuration List displays.
2. Touch to select the solution configuration to be exported and then touch the **Export** button.
  - To export all configurations, touch the **All Data** button and then touch the **Export** button.
  - An export confirmation dialog box displays, touch the **Exit** button to return to the Export Data screen.

### To export program(s)

1. From the Export Data screen, touch the **Program** button.
  - A Program List displays.

2. Touch to select the program to be exported and then touch the **Export** button.
  - To export all programs, touch the **All Data** button and then touch the **Export** button.
  - An export confirmation dialog box displays, touch the **Exit** button to return to the Export Data screen.

### To export a process report

1. From the Export Data screen, touch the **Process Report** button and then touch **Export**.
  - An export confirmation dialog box displays, touch the **Exit** button to return to the Export Data screen.

### To export a solution name list

1. From the Export Data screen, touch the **Solution Name List** button.
  - An export confirmation dialog box displays, touch the **Exit** button to return to the Export Data screen.

### To export a solution configuration name list

1. From the Export Data screen, touch the **Solution Name List** button.
  - An export confirmation dialog box displays, touch the **Exit** button to return to the Export Data screen.

### To export a program name list

1. From the Export Data screen, touch the **Program Name List** button.
  - An export confirmation dialog box displays, touch the **Exit** button to return to the Export Data screen.

### To export a system setup data

1. From the Export Data screen, touch the **System Setup** button.
  - An export confirmation dialog box displays, touch the **Exit** button to return to the Export Data screen.
  - Solution Usage Status



## To export solution usage status

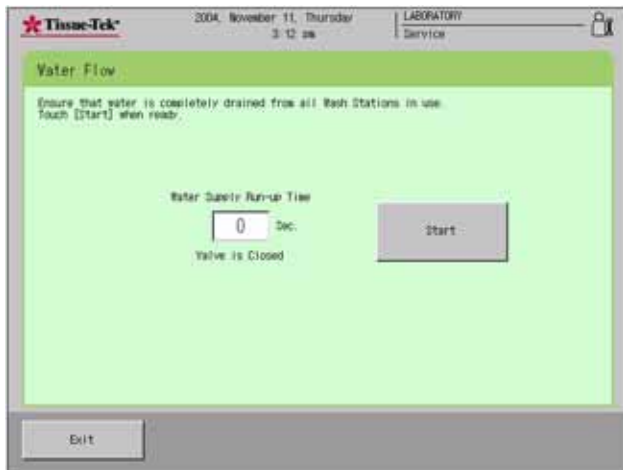
- From the Export Data screen, touch the **Solution Usage Status** button.
  - An export confirmation dialog box displays, touch the **Exit** button to return to the Export Data screen.

## Adjusting Water Flow

The Water Flow option allows the user to set the run-up time for water flow during staining.

**Note:** Ensure that all water has been completely drained from all wash stations in use prior to beginning the water flow test.

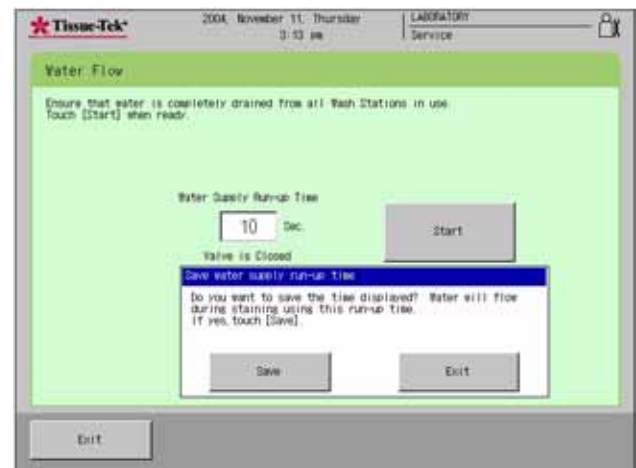
- From the main menu, touch the **Utility Menu** tab, and then touch the **Water Flow** button.
  - The Water Flow screen displays.



- Touch the **Start** button.
  - The following screen displays:



- Once the water starts to flow, watch the water level until it reaches the opening in the back of the wash reservoir. To verify flow rate, wait until the wash reservoirs start to overflow and then touch the **Stop** button.
  - A message dialog box appears.

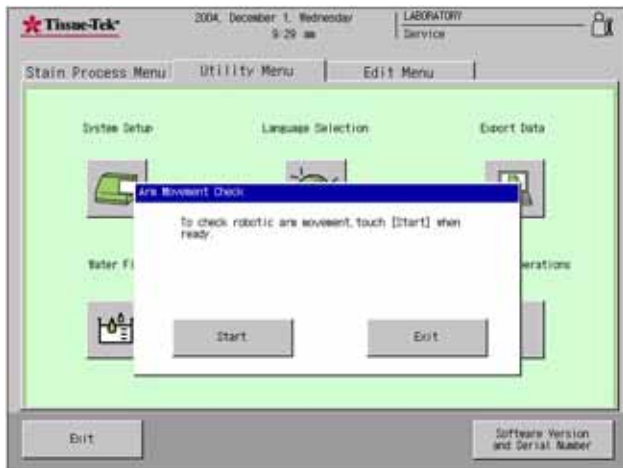


- Touch **Save** to use the displayed run-up time or
  - Touch **Exit** to return to the Water Flow screen.
- If necessary, repeat steps 2 and 3 or touch **Exit** to return to the Utility Menu.

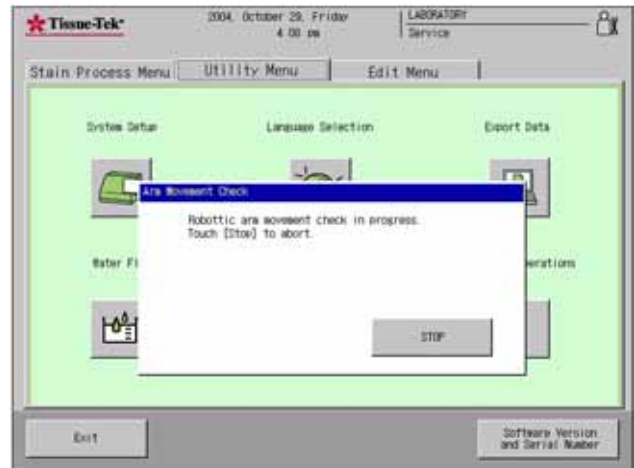
# CUSTOMIZATION OF SETTINGS

## Checking Robotic Arm Movement

1. From the main menu, touch the **Utility Menu** tab, and then touch the **Arm Movement Check** button.
  - The Arm Movement Check message box screen displays.



2. Touch **Start** to perform arm movement check or **Exit** to return to the Utility Menu.
  - Once the arm movement check is in progress, touch **Stop** to cancel the check.



## Customizing System Operating Parameters

The Edit Menu provides access to several options that allow the user to configure the system operating definitions, settings and programs that should be established prior to system use.


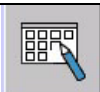



### To access the Edit Menu:

1. Log on.
2. From the Main Menu, touch the **Menu** button and then touch the **Edit Menu** tab.



The following options are available from the Edit Menu.

### Edit Menu

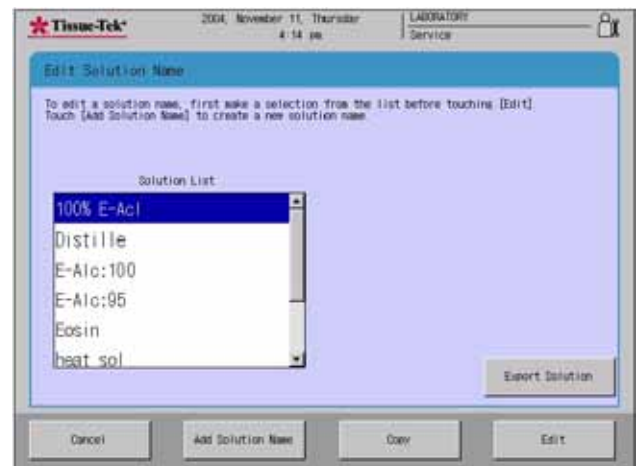
	<b>Edit Solution Name</b> – allows the user to modify the name of the solution.
	<b>Edit Solution Configuration</b> – provides a means to add or edit solution configuration
	<b>Edit Program</b> – allows the user to add or edit existing programs for routine operation
	<b>Program Check</b> – enables the user to select a solution configuration and program to ensure that they are compatible.
	<b>Delete Data</b> – Allows the user to delete unwanted information (solution names, programs and solution configurations) from the system.

## Creating or Changing Solution Names

The **Edit Solution Name** option from the Edit Menu tab lets the user add, edit, copy or export solution names. The system stores up to 100 solution names.

### To add a new solution name:

1. From the main menu, touch the Edit Menu tab, and then touch Edit Solution Name.
  - The Edit Solution Name screen appears.



2. Touch **Add Solution Name**.
  - The Create Solution Name screen displays.



3. Use the touch keyboard to enter a new solution name up to twenty characters long.
  - Touch **Save** to save the new solution name and return to the Edit Menu or

# CUSTOMIZATION OF SETTINGS

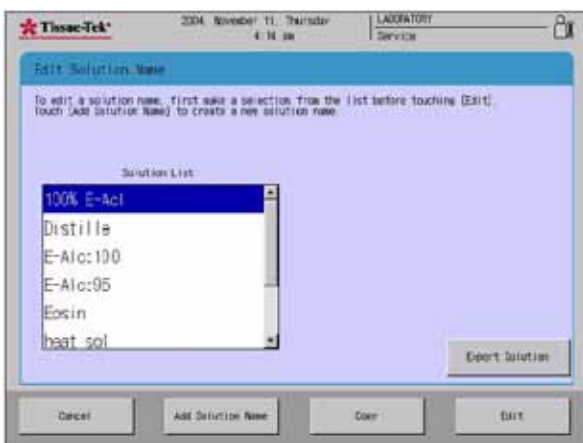
- Touch Cancel to return without saving the new name.
- The Create Abbreviated Solution Name screen displays.



4. Use the touch keyboard to enter an abbreviated name for the new solution up to eight characters long. This name is used for on-screen display.
  - Touch **Save** to save the abbreviated solution name and return to the Edit Menu or
  - Touch Cancel to return without saving the new name.

## To edit solution name:

1. From the main menu, touch the Edit Menu tab, and then touch Edit Solution Name.
  - The Edit Solution Name screen appears.



2. On the Solution List, touch to highlight the solution name to be edited, and then touch the **Edit** button.
  - The Create Solution Name screen displays.



3. Use the touch keyboard to modify the solution name using up to twenty characters.
  - Touch **Save** to save the solution name and return to the Edit Menu or
  - Touch Cancel to return without saving the new name.
  - The Create Abbreviated Solution Name screen displays.



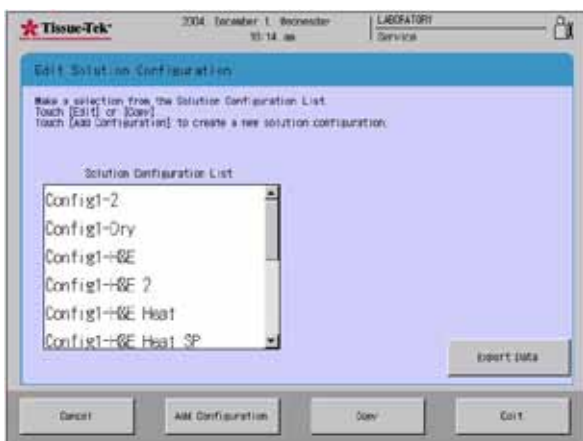
4. Use the touch keyboard to enter an abbreviated name for the new solution up to eight characters long. This name is use for on-screen display.
  - Touch **Save** to save the abbreviated solution name and return to the Edit Menu or
  - Touch **Cancel** to return without saving the new name.

## Creating or Changing Solution Configurations

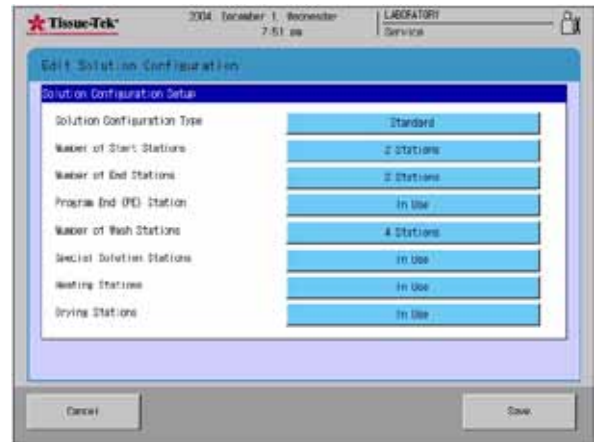
The **Edit Solution Configuration** option from the Edit Menu tab provides the means to add or edit solution configurations. The system can store up to 50 solution configurations.

To add a new solution configuration:

1. From the Edit Menu, touch the **Edit Solution Configuration** button.
  - The Edit Solution Configuration screen displays.



2. Touch the **Add Configuration** button.
  - The Edit Solution Configuration Screen displays.



3. Set the following parameters for the solution configuration:

Solution Configuration Type	Standard or Expansion
Number of Start Stations	1 to 3 Stations
Number of End Stations	1 to 3 Stations
Program End (PE) Stations	In Use or Not in Use
Number of Wash Stations	0 to 4 Stations
Special Solution Stations	In Use or Not in Use
Heating Stations	In Use or Not in Use
Drying Stations	In Use or Not in Use

**Note:** The programmed end stations will automatically be positioned in the end station located on the far right.

# CUSTOMIZATION OF SETTINGS

4. Touch **Save**.

- The Create Solution Configuration Name screen displays.
- Create solution configuration



5. Use the touch keyboard to enter a solution configuration name, up to 20 characters long and then touch **Save**.

- Touch Cancel to exit without saving.

The Create Abbreviated Solution Configuration Name Screen Displays.

6. Use the touch keyboard to enter an abbreviated solution name (to display on the station button), up to 5 characters long.

7. Touch **Save** to save the name.

- The Edit Configuration Solution Configuration Name screen displays

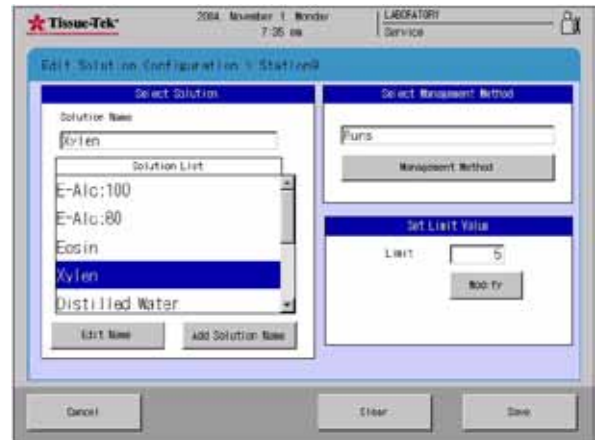


- Each square represents a station.

**Note:** Start/End, drying and wash stations are blocked.

8. Select an available station to assign the configuration to.

- The Edit Solution Configuration > "Selected Station" screen Displays.

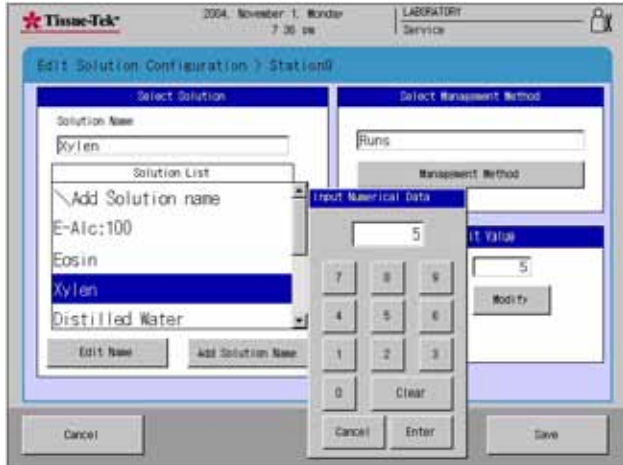


9. Under Solution Name, use the Solution List to select and highlight a solution to attribute to the selected station.

- If your reagent is not listed or is listed incorrectly use the **Add Solution Name** or **Edit Name** buttons.

10. Touch the **Management Method** button to select a Management Method of either **Days** or **Runs**

11. Under Set Limit Value, touch **Modify**.
  - A numeric keypad displays.



12. Using the touch keypad, enter a number value to set the limit for either runs or days
13. Touch **Save**.
  - A message dialog box displays.
14. Touch **Save and Exit** to save the new solution configuration.

### To edit a solution configuration:

1. From the Edit Menu, touch the **Edit Solution Configuration** button.
  - The Edit Solution Configuration screen displays.
2. From the Solution Configuration List, select to highlight the solution configuration to be modified and then touch the **Edit** button.
3. The Edit Solution Configuration Screen displays.
4. Set the following parameters for the solution configuration:

Solution Configuration Type	Standard or Expansion
Number of Start Stations	1 to 3 Stations
Number of End Stations	1 to 3 Stations
Program End (PE) Stations	In Use or Not in Use
Number of Wash Stations	0 to 4 Stations
Special Solution Stations	In Use or Not in Use
Heating Stations	In Use or Not in Use
Drying Stations	In Use or Not in Use

**Note:** The programmed end stations will automatically be positioned in the end station located on the far right.

5. Touch **Save**.
  - The Create Solution Configuration Name screen displays.
6. If necessary, use the touch keypad to modify the solution configuration name, up to 20 characters long and then touch **Save**.
  - Touch Cancel to exit without saving.
  - The Create Abbreviated Solution Name Screen Displays.
7. If necessary, use the touch keyboard to enter an abbreviated solution name (to display on the station button), up to 8 characters long.
8. Touch **Save** to save the name.
  - The Edit Configuration Solution Configuration Name screen displays
  - Each square represents a station.
9. Select the station to assign the configuration to.

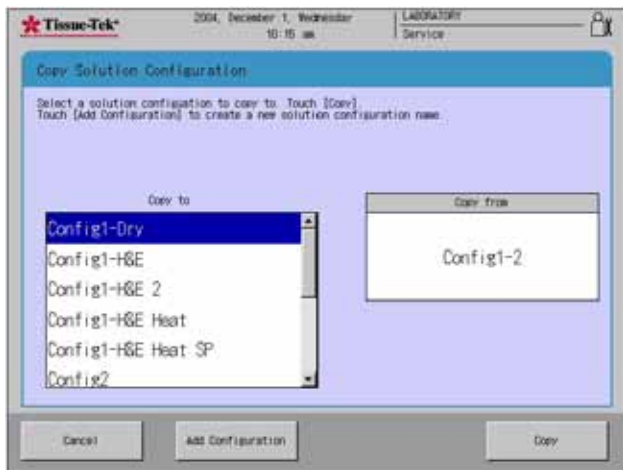
**Note:** Start/End, drying and wash stations are blocked.

- The Edit Solution Configuration > Selected Station screen Displays.
10. Under Solution Name, use the Solution List to select and highlight a solution to attribute to the selected station.
  11. Select a Management Method days or runs
  12. Under Set Limit Value, touch **Modify**.
    - A numeric keypad displays.
  13. Using the touch keypad, enter a number value to set the limit for either runs or days
  14. Touch **Save**.
    - A message box displays.
  15. Touch **Save and Exit** to save the new solution configuration.

# CUSTOMIZATION OF SETTINGS

To copy a solution configuration:

1. From the Edit Menu, touch the **Edit Solution Configuration** button.
  - The Edit Solution Configuration screen displays.
2. From the Solution Configuration List, select to highlight the configuration to be copied, and then touch the **Copy** button.
  - The Copy Solution Configuration screen displays.

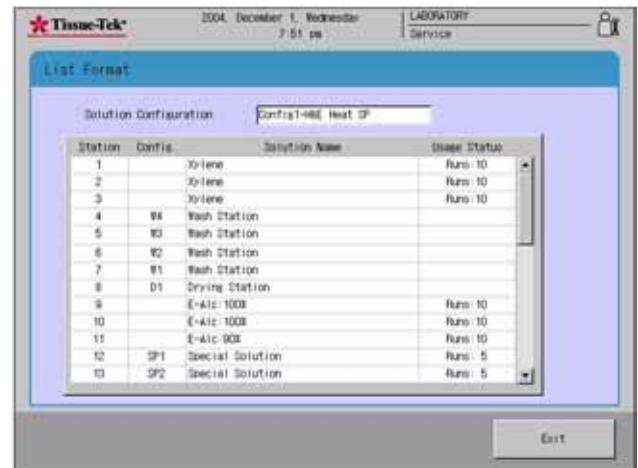


3. From the Copy To list, select to highlight the solution configuration to copy configuration information to and then touch the **Copy** button.
  - To create a new solution configuration to copy the configuration data to, touch the **Add Configuration** button and follow the *add a new configuration* procedure on page 3-13 to add the new configuration.

To view solution configurations:

This option allows the user to view a list of current solution configurations.

1. From the Edit Menu, touch the **Edit Solution Configuration** button.
2. Touch the **Detailed View** button.
  - Solutions configurations display in list format.



3. Touch **Exit** to return to the Edit Solution Configuration screen.

## Editing Station Properties

The Station Properties option allows the user to change station colors as displayed on-screen and to modify station parameters.

To access station properties options:

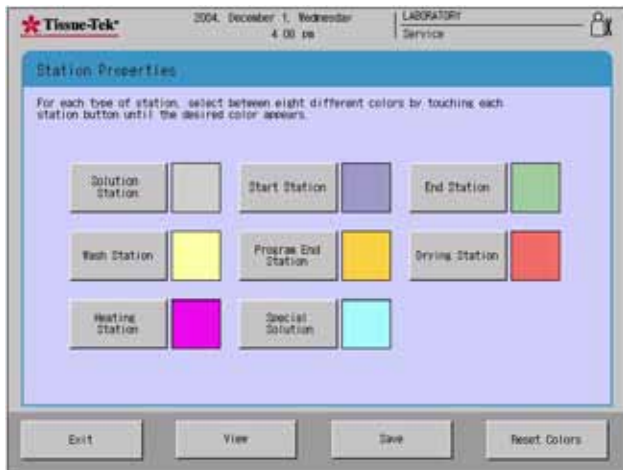
1. From the Edit Menu, touch the **Edit Solution Configuration** button.
2. Select a solution configuration.
3. Touch the **Station Properties** button.
  - The Station Properties screen displays.





### To change station colors:

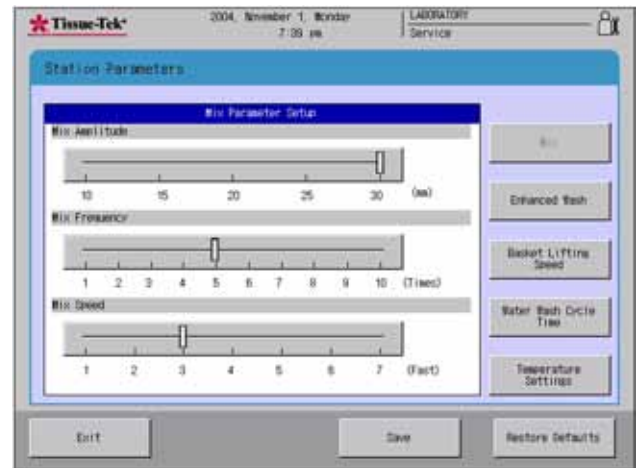
- From the Station Properties screen, touch the **Station Colors** button.
  - The following screen displays.



- For each station, select between eight different colors to differentiate station type, by touching each station button until the desired color appears.
  - Touch **View** to view station colors
  - Touch **Reset Colors** to reset to original colors.
- Touch **Save** to save color changes and exit.

### To edit station parameters:

- From the Station Properties screen, touch Station Parameters.
  - The Station Parameters screen displays.



From this screen you can setup Mix Parameters, setup Enhanced Wash, change Basket lifting speed, change water wash cycle time and adjust temperature settings.

### To adjust mix parameter settings.

- From the Station Parameters screen, select to highlight the station to be adjusted and then touch the **Mix** button.
- Using the sliding scales, adjust the following settings as necessary:
 

Mix Amplitude	10 to 30 mm
Mix Frequency	1 to 10 times
Mix Speed	1 to 7 (7 being the fastest)
- Touch **Save** to save changes.
  - Touch **Restore Defaults** to reset.

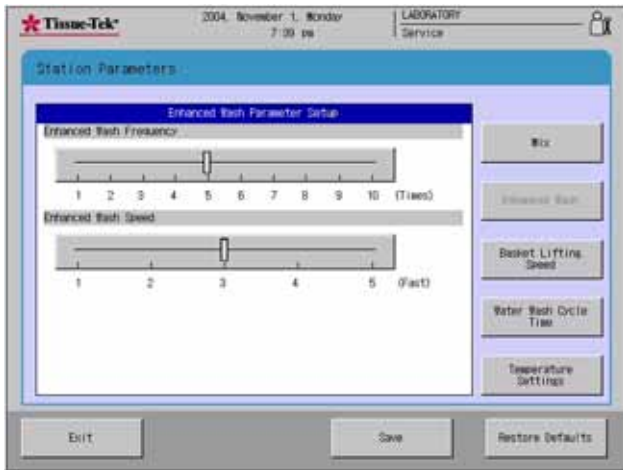
**NOTE:** This will restore all default system parameters.

- Touch **Exit** to exit without saving any changes.

# CUSTOMIZATION OF SETTINGS

## To change enhanced wash settings

1. From the Station Parameters screen, touch the **Enhanced Wash** button.
  - The following screen displays:



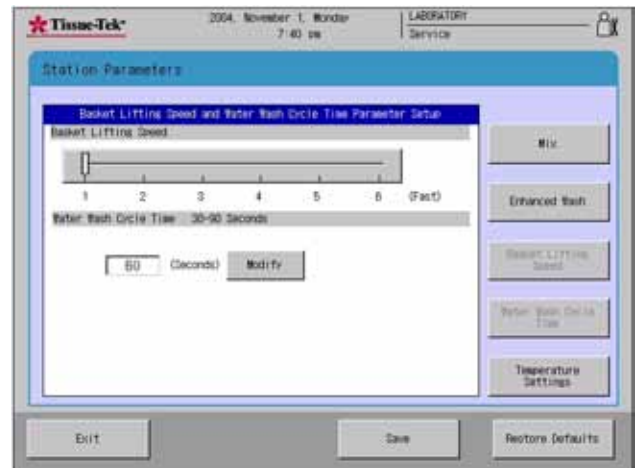
2. Using the sliding scales, adjust the following settings as necessary:
  - Enhanced Wash Frequency 1 to 10 times
  - Enhanced Wash Speed 1 to 5 (5 being the fastest)
3. Touch **Save** to save changes.
  - Touch **Restore Defaults** to reset.

**NOTE:** This will restore all default system settings for the station parameters.

- Touch **Exit** to exit without saving any changes.

## To adjust basket lifting speed and water wash cycle time:

1. From the Station Parameters screen, touch the **Basket Lifting Speed** button.
  - The following screen displays:



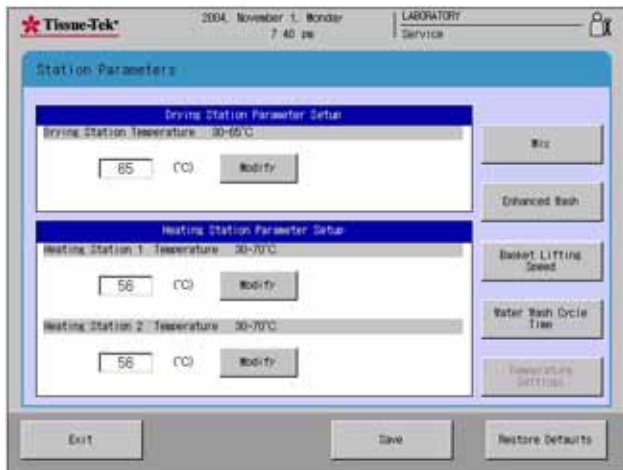
2. Using the sliding scale, adjust basket lifting speed from 1 to 6 (6 being fastest).
  - This screen also lists Water Wash Cycle Time. To adjust:
3. Touch the **Modify** button and set water wash cycle time from 30 to 90 seconds.
4. Touch **Save** to save changes.
  - Touch **Restore Defaults** to reset.

**NOTE:** This will restore all default system parameters.

- Touch **Exit** to exit without saving any changes.

To adjust temperature settings:

1. From the Station Parameters screen, touch the **Temperature Settings** button.
  - The following screen displays:



2. Adjust the following Drying and Heating Station parameters as necessary:

**Drying Station Temperature:**

1. Touch **Modify** and change the temperature with the range of 30 to 65° C.
2. Touch **Save**.

**Heating Station 1 Temperature**

1. Touch **Modify** and change the temperature within the range of 30 to 70° C
2. Touch **Save**.

**Heating Station 2 Temperature**

1. Touch **Modify** and change the temperature within the range of 30 to 70 C.
2. Touch **Save**.

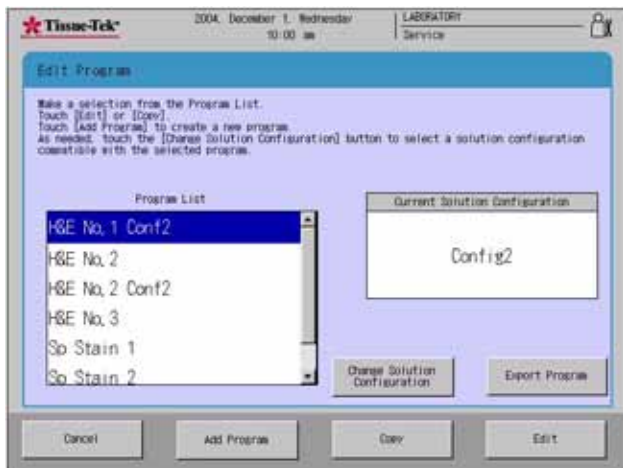
# CUSTOMIZATION OF SETTINGS

## Programming the Tissue-Tek Prisma

Programs are used to instruct the Tissue-Tek Prisma which solution configurations should run in which order. Programs can be added, copied, and exported. Up to 50 programs can be stored on the system.

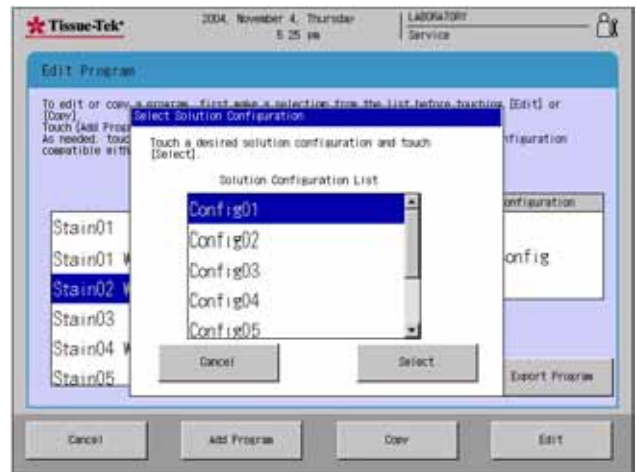
## Adding New Programs

1. From the Edit Menu, touch the **Edit Program** button.
  - The Edit Program screen displays.



The solution configuration may need to be changed to bring up a new program list. Touch **Change Solution Configuration** and select the desired configuration.

2. To add From the Edit Program screen, touch the **Add Program** button.
  - The Select Solution Configuration dialog box displays.



3. From the Solution Configuration List, touch to highlight the solution configuration to be used for this program and then touch **Select**.
  - The Create Program Name screen displays.



4. Using the touch keyboard, enter a program name, up to 20 characters long and then touch **Save**.
  - The Create Abbreviated Program Name screen displays.



5. Using the touch keyboard, enter an abbreviated program name, up to 5 characters long, and then touch Save. This is the name that displays in the overview monitor screen (stain in process).
  - The Edit Program "Program Name" Screen displays. This screen allows the authorized user to insert, delete, copy, paste and replace all steps within a given program.



6. Create program steps, see paragraph *Modifying Program Steps* on page 3.21.

## Copying Existing Programs

Existing programs can be used as a template to create a new program. When a program is copied, program steps and settings are duplicated to create a new program.

1. From the Edit Menu, touch the **Edit Program** button.
  - The Edit Program screen displays.
2. From the Program List, select to highlight the program to be copied and then touch the **Copy** button.
  - The Copy Program screen displays.
3. From the Copy To list, select to highlight the program to copy the information to or touch Add Program to add a new program to the list.

## Modifying Program Steps

Program steps are modified using the Edit Program Program Name screen.

This screen displays immediately after a new program is added or can be accessed as follows:

1. From the Edit Menu, touch the **Edit Program** button.
  - The Edit Program screen displays.
2. From the Program List, select to highlight the program to be modified.
  - The Edit Program "Program Name" screen displays.



# CUSTOMIZATION OF SETTINGS

## Setting Solution Station

1. Touch to highlight the **Station** field in the step to be modified and then touch Select Station.
  - The following screen displays:



2. Touch the solution station to be assigned to this step and then touch **Select**.

## Setting Process Time

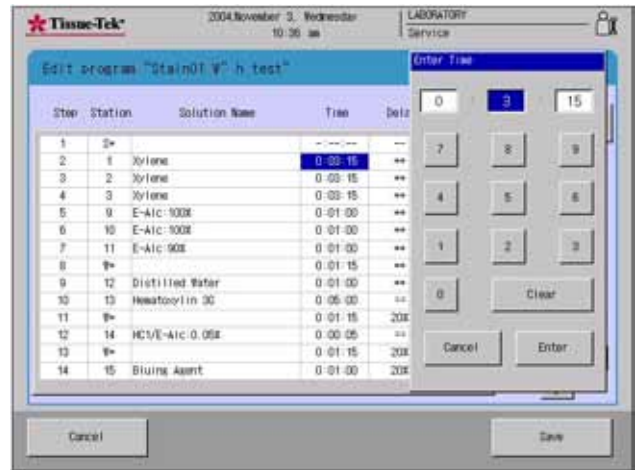
**Note:** At least one step must have a programmed process time.

1. Touch to highlight **Time** field in the step to be modified.
  - The following screen displays:



2. Touch the **Modify** button.

- The Enter Time dialog box displays.



**Note:** If the wrong step was selected use the up and down arrows to position the cursor to the desired field.

3. Use the touch keypad to select hours, minutes and seconds and adjust accordingly.
4. Touch **Enter**.
  - Touch **Clear** to erase the settings.
  - Touch **Exit** to exit without saving.

## Setting Delay Time

1. Touch to highlight the **Delay** field in the step to be modified.
  - The following screen displays:



2. Select delay time of **Exact**, **Limited 20%**, **Limited 50%** or **Unlimited** using the appropriate button.

**Note:** If the wrong step was selected use the up and down arrows to position the cursor to the desired field.

3. Touch **Save**.

## Setting Mix Function

1. Touch to highlight the **Mix** field in the step to be modified.

- The following screen displays:



2. Select Mix functionality of **Mix (ON)**, **Enhanced Wash**, or **OFF** using the appropriate button.

3. Touch **Save**.

## To copy a program step

1. Touch to highlight the Step field of the step to be copied.

2. Touch **Copy**.

3. Touch to highlight the Step field below where the copied step is to be pasted and touch **Paste**.

4. Touch **Save**.

## To insert a new step:

1. Touch the screen to select the step below where the new step is to be inserted and touch **Insert Step**.

2. Step numbers are added automatically.

## To delete a step

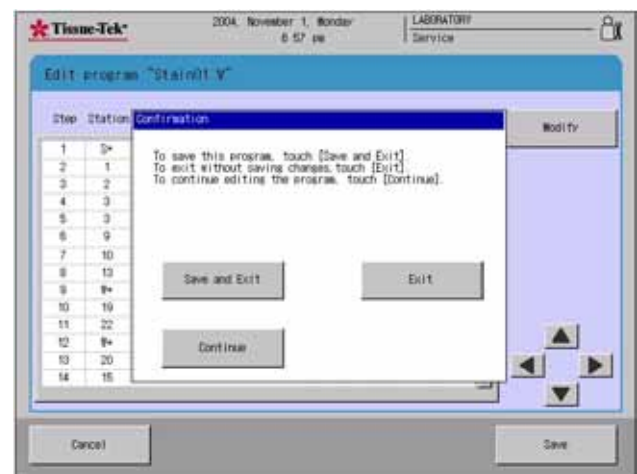
- Touch the screen to select and highlight the step to be deleted and then touch **Delete Step**.

## Confirming Program Changes

When all changes have been made to the selected program:

1. Touch **Save**.

- A Confirmation dialog box displays.



2. Touch **Save and Exit** to save program changes and return to the Edit Menu.

- Touch **Exit** to exit without saving changes

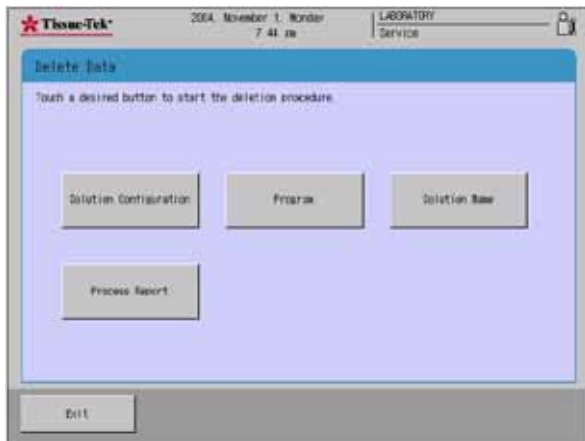
- Touch **Continue** to continue editing the selected program.

# CUSTOMIZATION OF SETTINGS

## Deleting Data

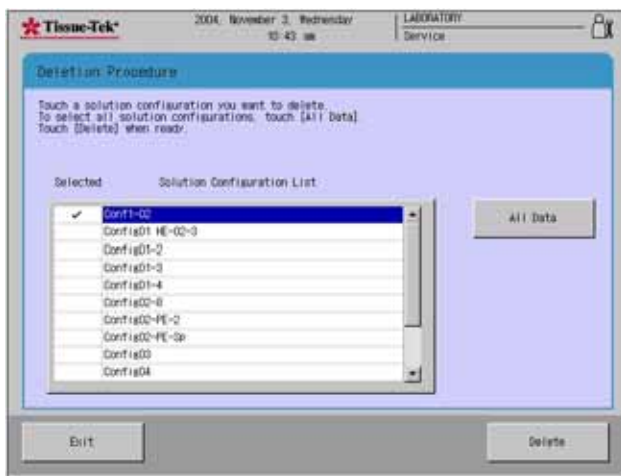
Solution names, solution configurations, programs and process reports can be deleted from the system.

1. From the Edit Menu, touch the **Delete Data** button.
  - The Delete Data screen displays

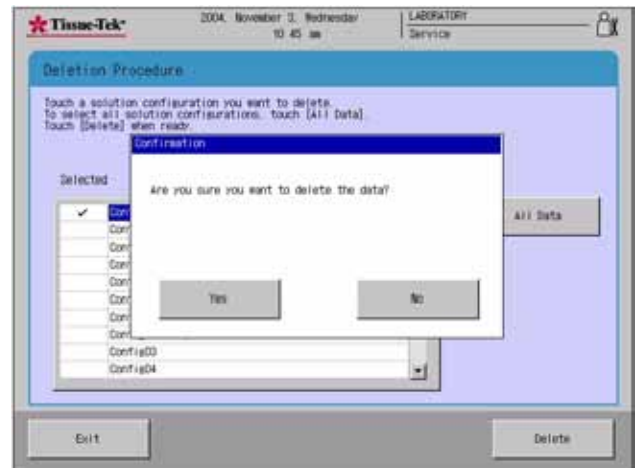


To delete a solution configuration:

1. From the Delete Data screen, touch **Solution Configuration**.
  - A Deletion Procedure screen displays.



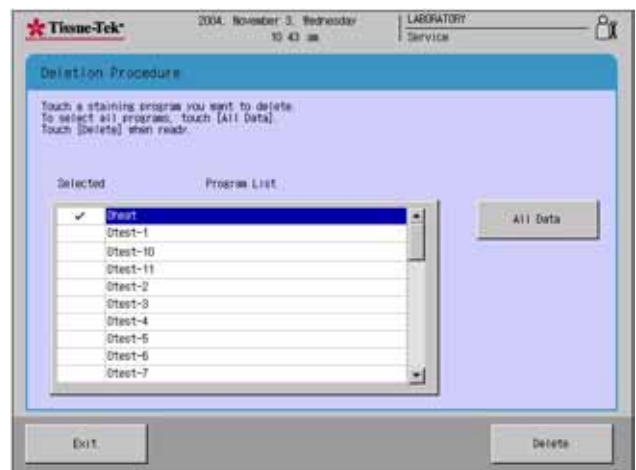
2. From the Solution Configuration List, select to highlight the configuration to be deleted, or touch the **All Data** button to delete all solution configurations.
  - A Confirmation dialog box displays.



3. Touch **Yes** to confirm deletion or **No** to cancel the delete procedure.

To delete a preset program:

4. From the Delete Data screen, touch **Program**.
  - A Deletion Procedure screen displays.

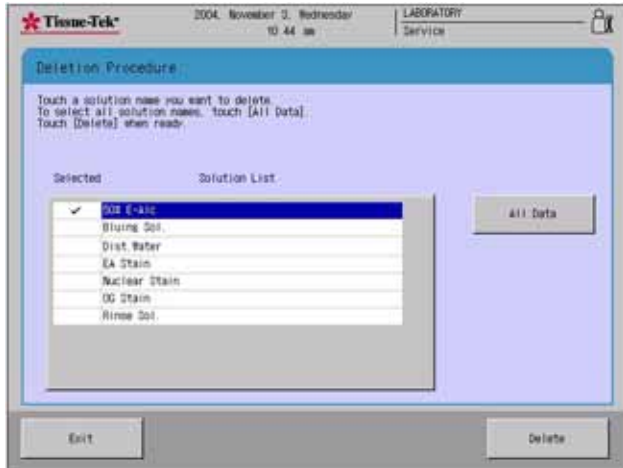


5. From the Program List, select to highlight the program to be deleted, or touch the **All Data** button to delete all programs.
  - A Confirmation dialog box displays.
6. Touch **Yes** to confirm deletion or **No** to cancel the delete procedure.



## To delete a solution name:

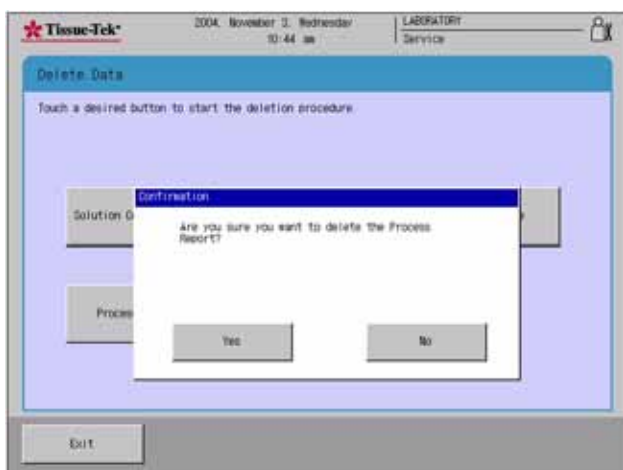
- From the Delete Data screen, touch **Program**.
  - A Deletion Procedure screen displays.



- From the Solution List, select to highlight the solution to be deleted, or touch the **All Data** button to delete all programs.
  - A Confirmation dialog box displays.
- Touch **Yes** to confirm deletion or No to cancel the delete procedure.

## To delete a process report

- From the Delete Data screen, touch Process Report.
  - A Confirmation dialog box displays.



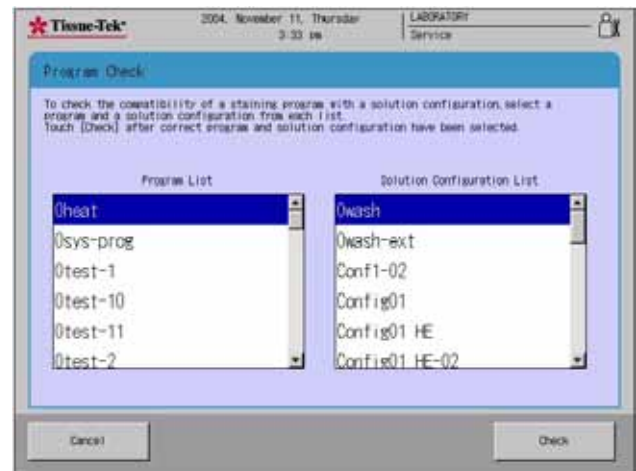
- Touch **Yes** to confirm deletion or No to cancel the delete procedure.

## Checking Program Validity

The Check Program button on the Edit Menu allows the user to check the compatibility of a staining program with a solution configuration.

## To check program compatibility:

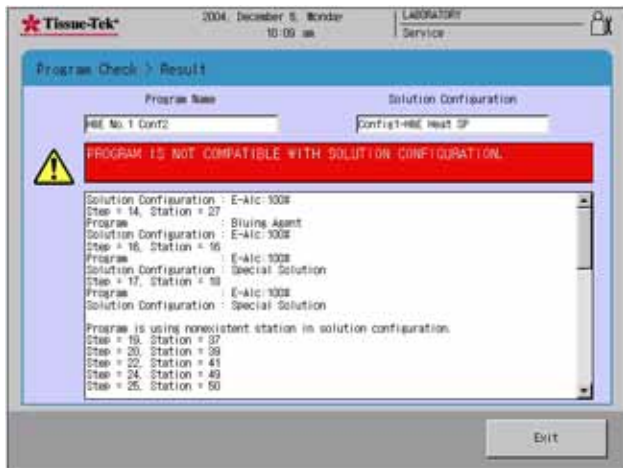
- From the Edit Menu, touch the **Program Check** button.
  - The Program Check screen displays.



- From the Program List, select to highlight the program to check.
- From the Solution Configuration List, select to highlight the configuration to check against the selected program.
- Touch the **Check** button.
  - The Program Check Results screen displays.
  - If the program is compatible a list of stations and solutions appears.

# CUSTOMIZATION OF SETTINGS

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5. Press **Exit** to return to the Program Check screen.

# OPERATING INSTRUCTIONS

## Initial Setup

Ensure that the initial setup procedures have been performed in accordance with the requirements of Section 3, Customization of Settings, prior to operating the Tissue-Tek® Prisma®.

## Understanding the Control Panel Display

The control panel provides the controls and indicators necessary to initiate a program, monitor the status of processes currently running, and configure system settings.

### Process Monitor Screen

The Process Monitor Screen (Figure 4-A) is displayed when the system is ready for operation. It shows the current solution configuration and allows for log on and to monitor any processes currently running.

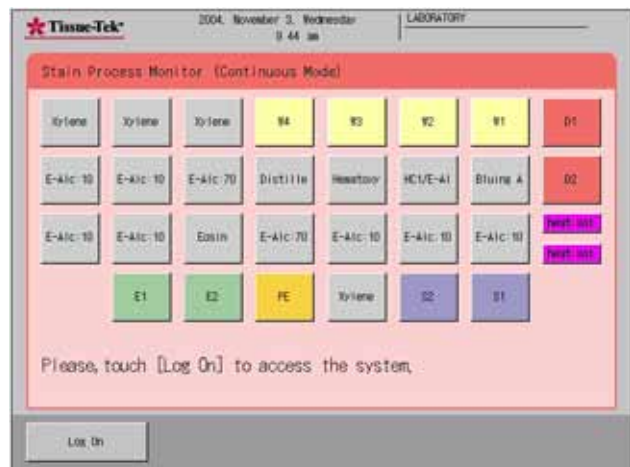


Figure 4-A

## Preparation

**CAUTION:** The use of iodine on this instrument may cause oxidation on some parts. It is recommended that if iodine must be used in some staining methods, that it be removed immediately upon completion of the stain. Failure to remove the iodine may cause oxidation.

### Loading of slides

Slides must be correctly inserted in the slide baskets prior to loading them on the instrument. The following precautions must be followed:

- The specimen side of the slide must face forward (towards the words "upside" on the basket).
- The label end of the slide must be outside (top) of the basket.
- Each slide must be in parallel grooves
- Each basket holds 20 slides; the empty grooves in a partially filled basket may be anywhere in the basket.

Before starting a program, verify the following:

- The water supply and drain hose are securely connected (see Section 2, Installation) and the water run up time is set according to the procedure in Section 3.
- All solution reservoirs are installed and filled with the appropriate solutions.
- Dryer stations, wash stations, and start/end stations are properly installed (see Section 2)
- Carbon filters have been installed (see section 2)

# OPERATING INSTRUCTIONS

## Accessing the Main Menu

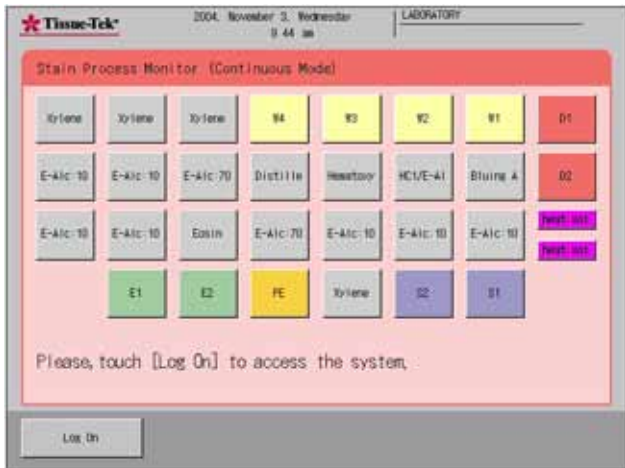
**Note:** You must login as an Administrator in order to modify system settings and operating parameters.

To access the Menu:

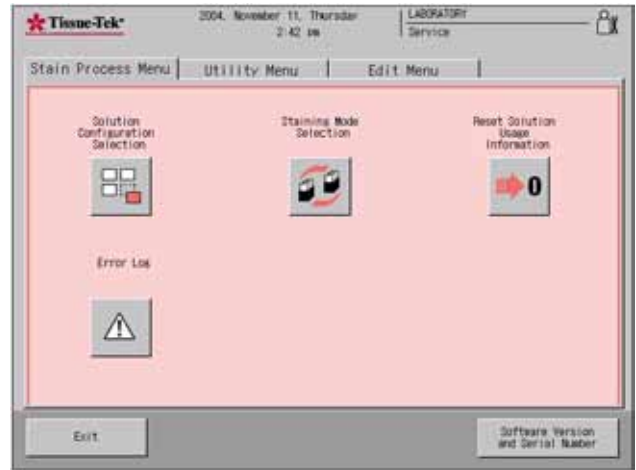
1. From the main system (Process Monitor) screen, touch the **Log On** button. The Enter Password dialog box displays.
  2. Use the touch keypad to enter your password, then touch the **Enter** button.
- The default password is set to "100000".

**Note:** For security reasons, your password will display on the screen, as entered, as a series of asterisks.

- If your login is *unsuccessful*: Re-enter your password and then press the **Enter** button to resubmit your login request.
- If your login is *successful*: The Stain Process Monitor screen displays.



3. Touch the **Menu** button to display the main menu.



The Tissue-Tek Prisma Menu consists of three tabbed pages that provide access to the following submenus **Utility Menu**, **Edit Menu**, and **Stain Process Menu**. System configuration and setup are performed from the Utility and Edit menus and are described in Section 3, *Customization of Settings*. The Stain Process Menu is used for system operation and is described below.

## Stain Process Menu

The following options are available from the Stain Process Menu.

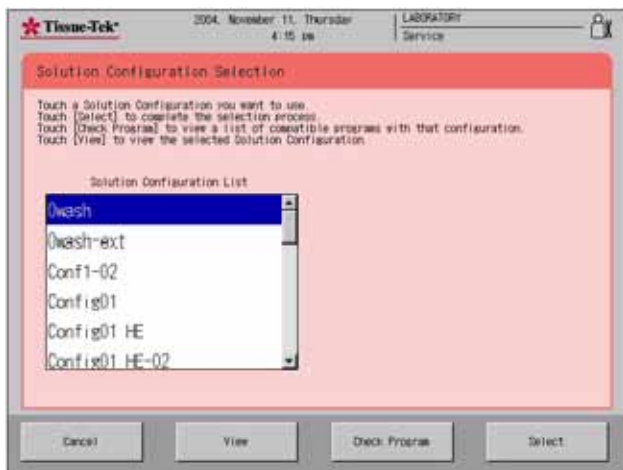
### Utility Menu

	<b>Solution Configuration Selection</b> – allows the user to choose and view programmed solution configurations.
	<b>Staining Mode Selection</b> – allows the user to change and view programmed staining modes.
	<b>Reset Solution Usage Information</b> – allows the user to reset usage information
	<b>Error Log</b> – allows the user to view a log of system errors.

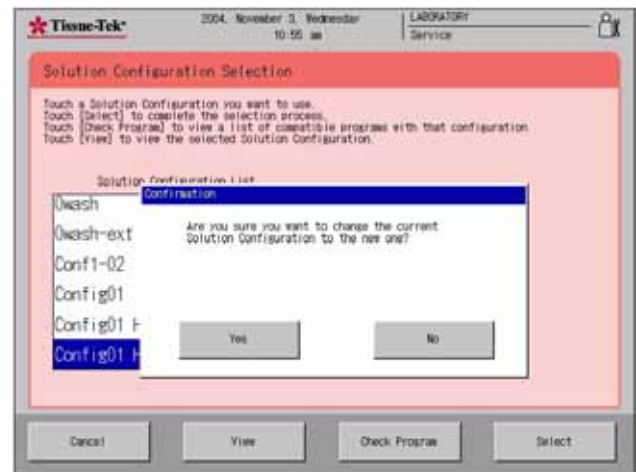
## Solution Configuration Selection

This option allows the user to choose and view programmed solution configurations. (See solution configurations setup in Section 3.)

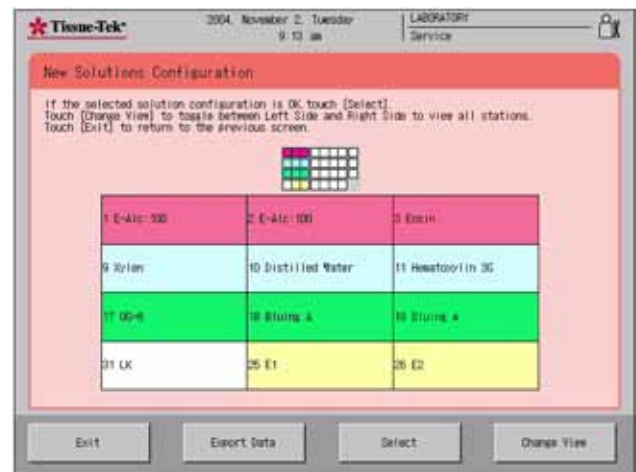
- From the Stain Process Menu, touch the **Solution Configuration Selection** button.
  - The Solution Configuration Selection screen displays.



- Touch to select a solution configuration from the list and then select from the following options or proceed to step 3.
  - Touch **View** to view the selected program
  - Touch **Check Program** to view all compatible programs.
- Touch **Select** to complete selection. The following confirmation dialog box displays:



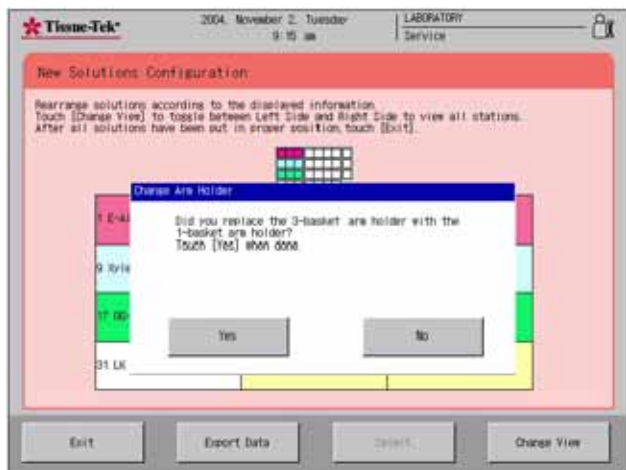
- Touch **No** to cancel the selection and return to the Solution Configuration Selection screen.
- Touch **Yes** to accept the new solution configuration and display the New Solutions Configuration screen.



- Touch **Change View** to toggle between left and right to view all stations.
  - Touch **Export Data** to export solution configuration selection data to a compact flash or printer.
  - Touch **Exit** to return to the previous screen.
- Touch **Select** to accept the selected solution configuration.

**NOTE:** A solution configuration change may require the 3-basket arm holder to be replaced with the 1-basket arm holder. Change the arm if necessary and answer **Yes** if changed.

# OPERATING INSTRUCTIONS



## To change the basket holder

**NOTE:** The three-arm basket holder will need to be removed to accommodate the expansion or special stain configurations.

**NOTE:** If the three-arm basket adapter is not removed, the basket may become misaligned resulting in a robotic arm malfunction.

- Press in the black lever at the top of the basket holder. Grasp the top of the 3-arm basket holder and gently slide upwards to remove. The basket adapter may need to be modified depending on the type of solution configuration used. The 3-arm basket holder will need to be removed to accommodate the expansion or special stain configurations.



6. Touch **Exit** to return to the Stain Process Menu.

## Staining Mode Selection

The Stain Mode Selection option from the Stain Process Menu allows the user to predetermine start options and process mode.

1. From the Stain Process Menu, touch the **Staining Mode Selection** button.
  - The Staining Mode Selection screen displays.



The Staining Mode Selection screen presents two tabbed pages, Staining Mode and System Setup that allow the user to set staining mode options and determine certain system options.

2. Touch the **Staining Mode** tab and make changes to the following settings as necessary.
  - **Staining Mode Selection** – Select either Batch Mode or Continuous Mode. Batch Mode moves one basket set through the entire staining process before beginning another basket set. Continuous mode allows the continuous addition of basket sets as long as a start station is open
  - **Initialization of Start Staining Screen** - This option is used for initiating the start screen. There are two options:
    - Touching START button after closing the door
    - Closing the door
  - **Initialization of Staining Process Screen** - This function refers to the physical action of starting the stain process. There are three options:
    - Touching START button
    - Touching START button after closing the door.
    - Closing the door

- **Start Confirmation** - Confirms the start action. There are two options:  
In Use  
Not In Use
  - **Process Start Notice** - Reconfirmation that the process has started. There are two options:  
In Use  
Not in Use
3. Touch the **System Setup** Tab and make changes to the following settings as necessary.
- **Heating Station Always Heated** - When the unit is powered on, the heating stations are always on. There are two options:  
Yes  
No

**NOTE:** This option is only available on product # 6131-Tissue-Tek Prisma with Special Stains.

- **Solution Name Display** - This allows the user to view the solution names on the Stain Process Monitor Screen. The options are:  
Yes  
No
- **Link with Coverslipper** - If the Prisma® is connected to the Film® Coverslipper there is a choice to have the instrument transfer the slides automatically or the instrument can be used independently. Options are:  
Yes  
No

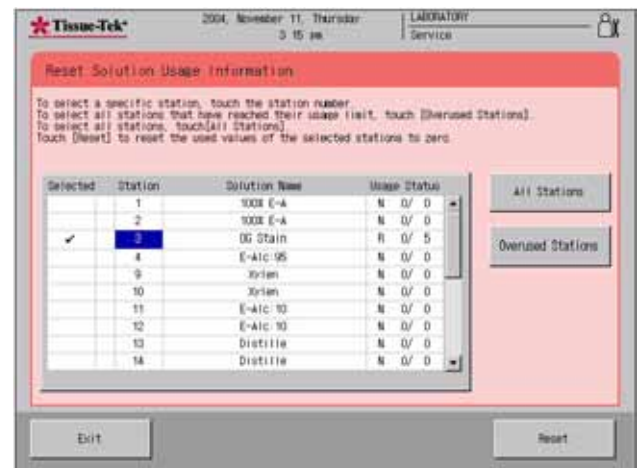
**Note:** This option is only available if the Prisma is connected with the Tissue-Tek® Film® Coverslipper.

4. Touch **Exit** to return to the Stain Process Menu.

## Reset Solution Usage Information

This function allows users to reset the solution stations that have reached their usage limit. (See section 3 for setting reagent management features)

1. From the Stain Process Menu, touch the **Reset Solutions Usage Information** button.
  - The Reset Solution Usage Information screen displays.



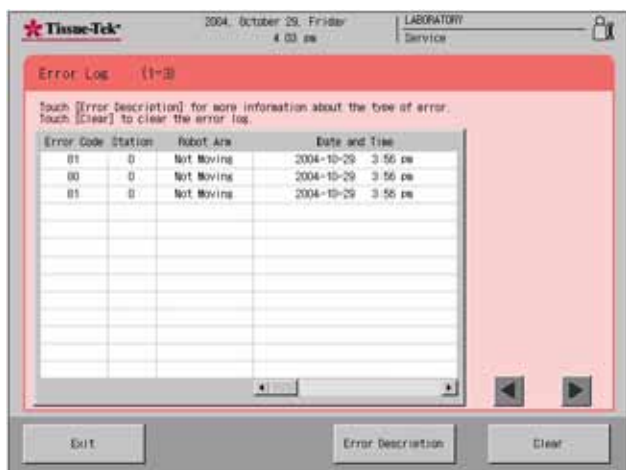
- To select a specific station touch the station number.
  - To select the stations that have reached their usage limit, touch **Overused Stations**.
  - To select all stations, touch **All Stations**.
2. Once stations have been selected, touch **Reset** to reset values to zero.
    - A confirmation dialog box appears, answer **Yes** to reset the solution usage information.
  3. Touch **Exit** to return to the Stain Process Menu.

# OPERATING INSTRUCTIONS

## Error Log

This function allows the user to view the error log.

1. From the Stain Process Menu, touch the **Error Log** button.
  - The Error Log screen displays.



- Touch **Error Description** for information about the all errors that have occurred.
- Touch **Clear** to clear all errors listed.

A confirmation window will appear, answer **Yes** to delete the Error Log.

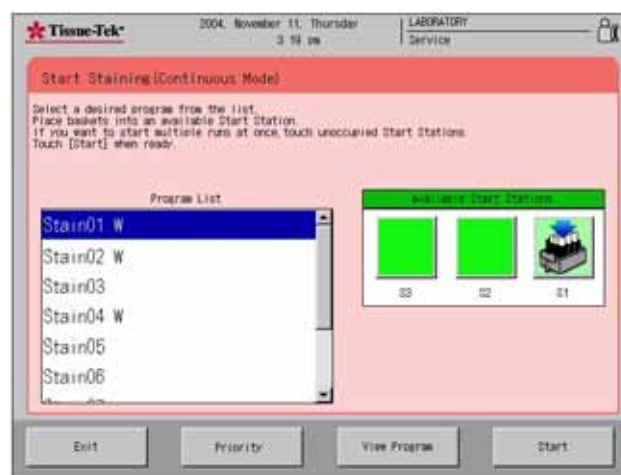
2. Touch **Exit** to return to the Stain Process Menu.

## Starting a Stain Process

1. Log on to access the main, Stain Process Monitor, menu.



2. Touch **Start** to initiate the Start screen.



**NOTE:** Start confirmation may be different depending on the settings programmed under Staining Mode Selection, refer to page 4.3.



3. From the list, select a desired program.
4. Place appropriately loaded baskets into any available start stations. Baskets are loaded with the “upside” on the basket adapter facing the right side of the instrument.

**NOTE:** If starting more than one basket set, place baskets in an available start station and touch another of the unoccupied start stations on the screen. A basket mark will appear in the loaded start stations.

5. Close the door or touch Start to initiate the start process.

**NOTE:** Initiation of the Start is dependent on the settings programmed under Staining Mode Selection. If the touch **Start** option is used, the **Start** can be touched only after the door is opened and closed. It is otherwise grayed out and cannot be selected.

- If the Start confirmation option is programmed, touch **Start** when the window appears.
- Touch **Cancel** if desired start needs to be cancelled. Remove baskets if necessary and touch **Exit**.

The Stain Process Confirmation will appear if programmed to do so. Touch **Exit** to remove the window otherwise it will automatically disappear after a certain period of time.

## Monitoring a Staining Process

During the staining process, the Stain Process Monitor Screen is displayed. The Stain Process Monitor is a visual display that identifies where all staining runs are located at any given time. The abbreviated name of the staining process will be displayed in the solution station that is currently in progress. From the Stain Process Monitor screen the operator can make various selections. Additional baskets may be added, detailed monitor checked, end station status checked, baskets removed, and runs aborted.



# OPERATING INSTRUCTIONS

## Adding Baskets

Additional baskets may be added during the staining process.

1. From the Stain Process Monitor screen, touch the **Add Baskets** button.
2. Select a desired program from the program list.
3. Place appropriately loaded baskets into any available start stations. Baskets are loaded with the “upside” on the basket adapter facing the right side of the instrument.

**NOTE:** If starting more than one basket set, place baskets in an available start station and touch another of the unoccupied start stations on the screen. A basket mark will appear in the loaded start stations.

4. Close the door or touch **Start** to initiate the start process.

**NOTE:** Initiation of the Start is dependent on the settings programmed under Staining Mode Selection. If the touch [Start] option is used, the [Start] can be touched only after the door is opened and closed. It is otherwise grayed out and cannot be selected.

- If the Start confirmation option is programmed, touch **Start** when the window appears.
- Touch **Cancel** if desired start needs to be cancelled. Remove baskets if necessary and touch **Exit**.

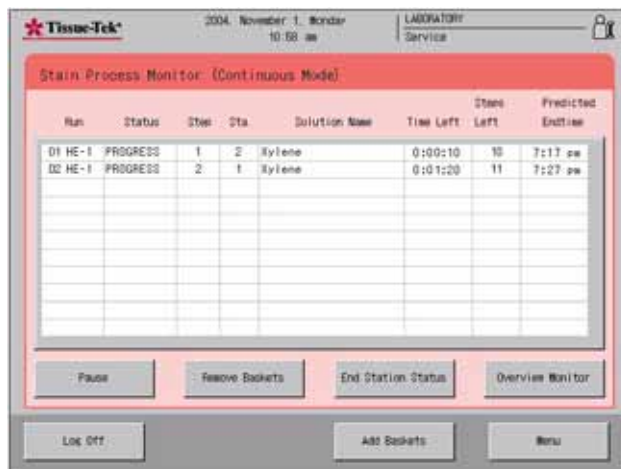
The Stain Process Confirmation will appear if programmed to do so. Touch **Exit** to remove the window otherwise it will automatically disappear after a certain period of time.

## Detailed Monitor

While a staining run is in progress, the operator can check the time left for a particular run and get an estimated time for completion. The Detailed Monitor Screen will display the run number for each program currently running, the status of that run, the step and station currently in, the time left in that station, and the predicted end time for that run.

1. From the Stain Process Monitor screen, touch the **Detailed Monitor** button.

- This displays the Detailed Monitor screen. The status of the current stain process and the predicted end times are displayed.

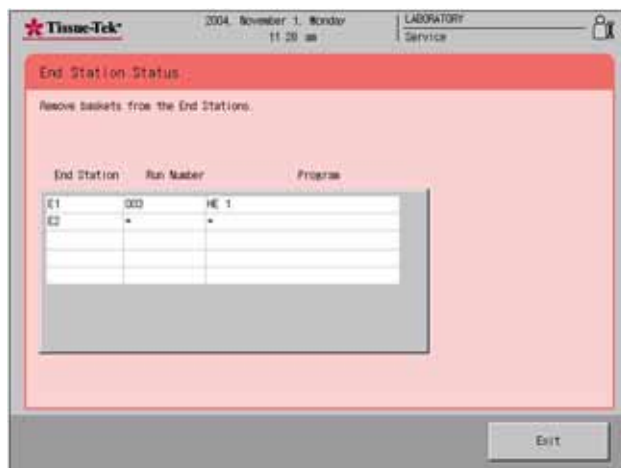


- Touch **Overview Monitor** to return to the Stain Process Monitor Screen.

## Monitoring the End Station Status

At any time during a staining run, the end station status can be monitored.

1. From the Stain Process Monitor screen, touch the **Detailed Monitor** button.
2. Touch the **End Station Status**. The status of each end station is displayed.

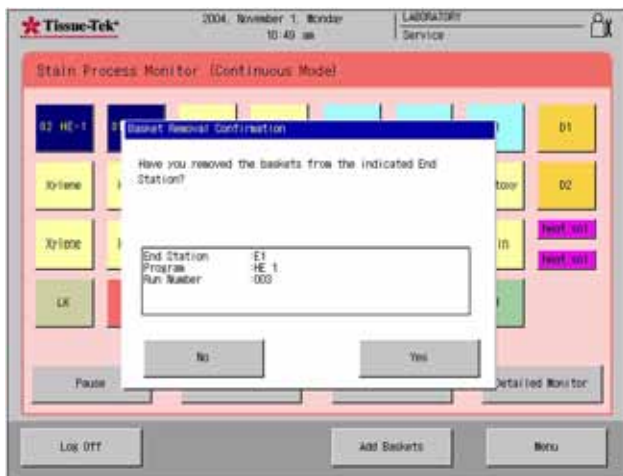


3. Touch the **Exit** button to return to the Stain Process Monitor Screen.

## Removing Baskets

After a run has been completed and the baskets are positioned in the end stations or Programmed End station, the baskets can be removed. The Remove Basket button will be grayed out and will not function if there are no baskets to be removed.

1. From the Stain Process Monitor screen, touch the **Detailed Monitor** button.
2. Touch the **Remove Basket** button.



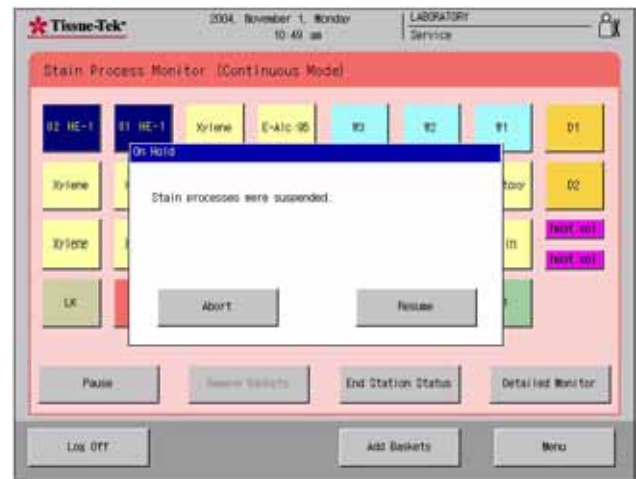
3. Open the door and remove baskets from the indicated end stations.
4. If the baskets have been removed from the indicated end stations, touch **Yes** to confirm their removal.

## Interrupting or Canceling a Staining Process

From the Stain Process Monitor Screen, the operator may choose to interrupt or cancel a staining run. During process interruption, the robotic arm will not move. The interruption should be as short as possible to avoid affecting stain quality if multiple staining programs are in progress.

To interrupt a staining process:

1. From the Stain Process Monitor Screen touch **Pause**. (If the robotic arm is moving, the message, 'Please Wait', will appear. When the robotic arm has stopped, the On Hold window will be displayed). From this window the operator has two options: touch **Resume** to return to the Stain Process Monitor Screen or touch **Abort** to cancel a staining run.

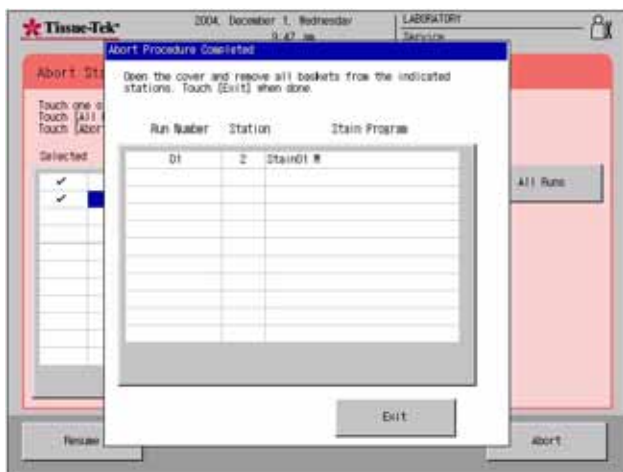


2. From the Abort Stain Process Screen, touch one or more runs to be aborted, or touch **All Runs** to abort all runs.
  - Touch **Abort** to abort.
  - Touch **Resume** to resume the staining process.
  - Touch **Yes** to confirm the aborted staining process.

# OPERATING INSTRUCTIONS



3. Open the cover and remove all baskets from the indicated stations.

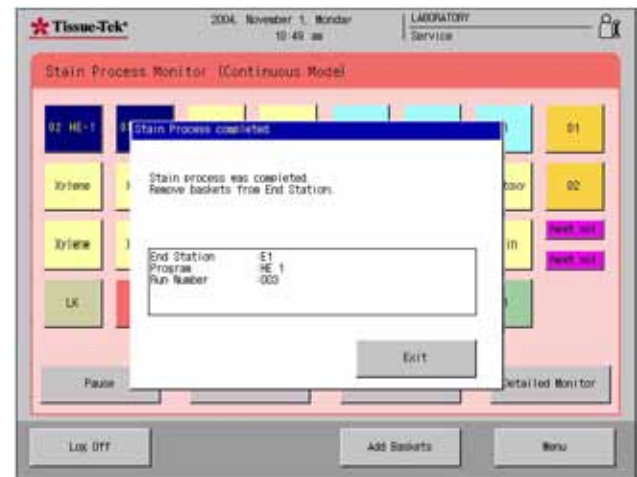


4. Touch **Exit** when baskets have been removed.

**NOTE:** The Exit button will not become active until the cover is opened and then closed.

## Finishing the Stain Process

When the stain process is completed the alarm will sound to inform the operator that the stain process has been completed. The Stain Process Completed Window will be displayed.



1. Remove all baskets from the indicated End Stations.
2. Touch the **Exit** button

**NOTE:** The Exit button will not become active until the cover is opened and then closed.


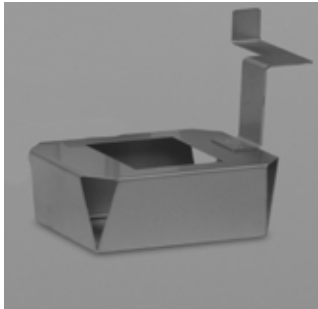



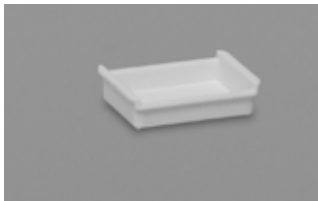




3. Touch **Yes** to confirm that the baskets have been removed

**NOTE:** If the Tissue-Tek® Prisma® is connected to the Tissue-Tek® Film® Coverslipper, the baskets will be automatically transferred for coverslipping.




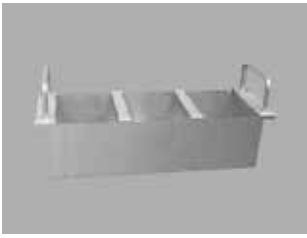
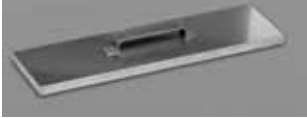
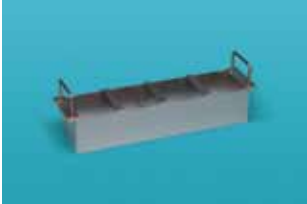
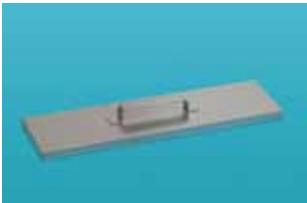

# ACCESSORIES

## Standard Accessories





### Basic Unit

Product Code	Description		Product Code	Description	
4768	20-Slide Basket		6139	10-Slide Basket Load/Unload Adapter*	
6135	20-Slide Basket Load/Unload Adapter		6140	Special Stain Solution Reservoir, 160 ml*	
6136	20-Slide Basket Adapter		6144	Special Stain Reservoir Lid*	
6137	10-Slide Basket*		6147	Standard Solution Reservoir, 680 ml	
6138	10-Slide Basket Adapter*		6148	Load/Unload Reservoir with Handle	

# ACCESSORIES

Product Code	Description		Product Code	Description	
6149	Wash Reservoirs 850 ml		6160	Activated Carbon Filter	
6151	Standard Solution Reservoir Lid		6161	Station Labels (Start, End, PE)	No image available
6152	3-Position Reservoir Tray		6162	Basket Adapter Label	No image available
6153	3-Position Reservoir Lid		6163	Control Panel Protection Sheet	No image available
6154	4-Position Reservoir Tray		6164	Compact Flash Card	No image available
6155	4-Position Reservoir Lid		* for product 6131 only		
6156	Special Stain Reservoir Tray*				

## Optional Accessories

Product Code	Description	
6145	Small Solution Reservoir, 260 ml	
6146	Small Solution Reservoir Lid	
6165	Duct Connection Adapter, 38mm dia.	
6166	Duct Connection Adapter, 75mm dia	

# ACCESSORIES

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# CARE OF THE INSTRUMENT

## General Maintenance

Keep the exterior of the Tissue-Tek® Prisma® Automated Slide Stainer free from dust. Do not use solvents of any kind on the control panel. The plastic cover may be cleaned with a glass cleaner and a soft cloth.

### Daily Maintenance

#### Exterior/Interior Surfaces

Daily clean the plastic and painted areas by wiping with a clean cloth. Clean the interior of the solution area by wiping with a clean cloth.

### Bi-Monthly Maintenance

#### Replacement of the Carbon Filter

It is recommended that the carbon filters be changed after two weeks or sooner if fume monitoring reveals elevated reagent vapors.

Keep the filters in place even if there is an internal duct system attached.

To replace the carbon filters:

**CAUTION:** Make sure that the instrument is switched off and the power cord is unplugged before beginning.

1. Open the main cover of the instrument and locate the filter cover located on the rear panel inside of the instrument.
2. Open the filter covers by pressing down on the button located at the top center of the filter cover (Figure 6-A).



Figure 6-A

3. Lower the filter cover.
4. Remove the plastic wrapping from both carbon filters.
5. Remove the activated carbon filters from the instrument and dispose of them properly.
6. Place the carbon filters side by side in a horizontal position in the appropriate location (Figure 6-B).



Figure 6-B

7. Push firmly against the filter cover to close and latch the hook.
8. Lower the main cover.

# CARE OF THE INSTRUMENT

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## Monthly Maintenance

### Drying Station

The drying stations should be cleaned once a month or more often as needed.

1. Turn the power off by pressing the power switch to the "O" position.
2. Open the main cover.
3. Wait until the temperature of the drying stations has reached a comfortable level, and remove the inner components of the drying stations.
4. Remove the residue and any debris from the components by washing with water and air-drying. Return components to the inside of the drying stations and verify proper insertion.

### Solution Reservoirs and Slide Baskets

The solution reservoirs and slide baskets should be washed with tap water or a mild detergent once a month. If stains and residue are difficult to remove from dried reagents, soak first in a commercially available chemical cleaning detergent or bleach solution and then rinse with a mild detergent and water. Cleaning reservoirs and slide baskets monthly will help to keep these items free from permanent stains. Always use the same reservoir for a given solution to avoid contamination.

### Reservoir Trays

The reservoir trays should be cleaned once a month.

1. Turn the power off by pressing the power switch to the "O" position.
2. Open the Main Cover
3. Remove the reservoir trays from the instrument by grasping on to the handles located on each side of the tray (Figure 6-C).



**Figure 6-C**

4. Remove the solution reservoirs from the reservoir trays.
5. Remove the residue and any debris from the trays by washing with water or mild detergent and let air-dry.
6. Return the solution reservoirs to the original positions and place the reservoir trays back into the instrument.
7. Close the Main Cover.

# TROUBLESHOOTING

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## General Information

The following Troubleshooting Chart contains general problems that could occur during operation of the Tissue-Tek® Prisma® Automated Slide Stainer. Probable causes and recommended remedies are included for each problem listed, to aid in diagnosis and correction.

If additional assistance is required concerning an instrument problem, or if the problem cannot be isolated or is beyond the scope of this manual, please contact the Sakura Finetek USA, Technical Support Department. If outside the USA, call the nearest Sakura representative.

# TROUBLESHOOTING

Message	Description	Function	Recovery Action
System Error	A system error has occurred.	Stop by pressing the On/Off Switch. (Emergency Stop). The staining process will be interrupted.	Turn instrument power off and contact Sakura Technical Support.
Power Outage	A Power outage has occurred	Arm will return to the home position after the power is restored	Perform recovery process (continue or abort run).
Power Outage Recovery Failure	Detected inconsistent or abnormal data at the time of memory check during power on.	Power failure recovery of staining process is aborted	Repeat staining process.
Cover Open	Hood was open during staining process.	Emergency stop condition	Close hood to continue process.
Cover Open (not during staining)	Hood was open when arm was moving but not during staining process.	Emergency stop condition.	Close hood to continue process.
Processing Halt	A temporary stop by the user.	Although this is handled as an error, it is not an abnormal condition. Error is logged into the history.	Restart operation.
Door Open	Door was open when the robotic arm was moving to front row reservoirs.	Emergency stop condition.	Close door to continue process.
Printer Error	A printer error has occurred.	Message display only.	Change printer settings to "print" and restart the printing operation.
Exhaust Fan Stop	The exhaust fan has stopped.	Message display only.	Turn instrument power off and on. Check to see if fan has restarted. If not contact Sakura Technical Support Department.
Battery Voltage Low	Voltage of back-up battery is low.	Message display only.	When the battery voltage becomes low the memory cannot be backed up and recorded information will be lost. Contact Sakura Technical Support Department.
Motor Unit Communication Error	Serial communication failure between operation panel CPU board and control board CPU2.	Abort staining process.	Turn instrument power off and on. Check robotic arm function. If error reoccurs, contact Sakura Technical Support Department.
I/O Unit Communication Error	Serial communication failure between operation panel CPU board and control board CPU1.	Abort staining process.	Turn instrument power off and on. If error reoccurs during startup, contact Sakura Technical Support Department.
Vacuum Breaker Error	A vacuum breaker error has occurred.	Abort staining process.	Contact Sakura Technical Support Department.
Robotic Arm Error	A robotic arm error has occurred.	Emergency stop condition.	Perform recovery process (continue or abort run).
Home Position Sensor Error (X axis)	X axis home position return sensor detected error.	Abort staining process.	Turn instrument power off and on. Check robotic arm function. If error reoccurs, contact Sakura Technical Support Department.
Wire Slack (X axis)	Detected X axis wire slack.	Abort staining process.	Turn instrument power off and on. Check robotic arm function. If error reoccurs, contact Sakura Technical Support Department.

Message	Description	Function	Recovery Action
Deviation Error (X axis)	Detected misalignment (misstep) of X axis robotic arm.	Emergency stop condition.	Perform recovery process (continue or abort run).
Wire Cut Off (X axis)	Detected X axis wire derailment.	Emergency stop condition.	Contact Sakura Technical Support Department.
Home Position Sensor Error (Y axis)	Y axis home position return sensor detected error.	Abort staining process.	Turn instrument power off and on. Check robotic arm function. If error reoccurs, contact Sakura Technical Support Department.
Wire Slack (Y axis)	Detected Y axis wire slack.	Abort staining process.	Turn instrument power off and on. Check robotic arm function. If error reoccurs, contact Sakura Technical Support Department.
Deviation Error (Y axis)	Detected misalignment (misstep) of Y axis robotic arm.	Emergency stop condition.	Perform recovery process (continue or abort run).
Wire Cut Off (Y axis)	Detected Y axis wire derailment.	Emergency stop condition.	Contact Sakura Technical Support Department.
Home Position Sensor Error (Z axis)	Z axis home position return sensor detected error.	Abort staining process.	Turn instrument power off and on. Check robotic arm function. If error reoccurs, contact Sakura Technical Support Department.
Wire Slack (Z axis)	Detected Z axis wire slack.	Abort staining process.	Turn instrument power off and on. Check robotic arm function. If error reoccurs, contact Sakura Technical Support Department.
Deviation Error (Z axis)	Detected misalignment (misstep) of Z axis robotic arm.	Emergency stop condition.	Perform recovery process (continue or abort run).
Wire Cut Off (Z axis)	Detected Z axis wire derailment.	Emergency stop condition.	Contact Sakura Technical Support Department.
Sensor Opened (Drying Station A)	Drying Station A sensor is disconnected.	Temperature control at drying station A is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.
Sensor Shorted (Drying Station A)	Drying Station A sensor has short-circuited.	Temperature control at drying station A is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.
Temperature Low (Drying Station A)	Temperature has not reached the set temperature at Drying Station A in the allotted time.	Temperature control at drying station A is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.
Thermal Fuse (Drying Station A)	Internal temperature of Drying Station A has reached 85° C. The over-temperature prevention function is running.	Temperature control at drying station A is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.
Fan Stop (Drying Station A)	Drying Station A fan has stopped functioning.	Temperature control at drying station A is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.
Sensor Opened (Drying Station B)	Drying Station B sensor is disconnected.	Temperature control at drying station B is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.
Sensor Shorted (Drying Station B)	Drying Station B sensor has short-circuited.	Temperature control at drying station B is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.

# TROUBLESHOOTING

Message	Description	Function	Recovery Action
Temperature Low (Drying Station B)	Temperature has not reached the set temperature at Drying Station B in the allotted time.	Temperature control at drying station B is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.
Thermal Fuse (Drying Station B)	Internal temperature of Drying Station B has reached 85° C. The over-temperature prevention function is running.	Temperature control at drying station B is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.
Fan Stop (Drying Station B)	Drying Station B fan has stopped functioning.	Temperature control at drying station B is stopped. All other functions are running normally.	Stop processes using drying stations. Contact Sakura Technical Support Department.
Sensor Opened (Heating Station A)	Heating Station A sensor is disconnected.	Temperature control at Heating Station A is stopped. All other functions are running normally.	Stop processes using Heating Stations. Contact Sakura Technical Support Department.
Sensor Shorted (Heating Station A)	Heating Station A sensor has short-circuited.	Temperature control at Heating Station A is stopped. All other functions are running normally.	Stop processes using Heating Stations. Contact Sakura Technical Support Department.
Temperature Low (Heating Station A)	Temperature has not reached the set temperature at Heating Station A in the allotted time.	Temperature control at Heating Station A is stopped. All other functions are running normally.	Stop processes using Heating Stations. Contact Sakura Technical Support Department.
Thermal Fuse (Heating Station A)	Internal temperature of Heating Station A has reached 85° C. The over-temperature prevention function is running.	Temperature control at Heating Station A is stopped. All other functions are running normally.	Stop processes using Heating Stations. Contact Sakura Technical Support Department.
Sensor Opened (Heating Station B)	Heating Station B sensor is disconnected.	Temperature control at Heating Station B is stopped. All other functions are running normally.	Stop processes using Heating Stations. Contact Sakura Technical Support Department.
Sensor Shorted (Heating Station A)	Heating Station B sensor has short-circuited.	Temperature control at Heating Station B is stopped. All other functions are running normally.	Stop processes using Heating Stations. Contact Sakura Technical Support Department.
Temperature Low (Heating Station A)	Temperature has not reached the set temperature at Heating Station B in the allotted time.	Temperature control at Heating Station B is stopped. All other functions are running normally.	Stop processes using Heating Stations. Contact Sakura Technical Support Department.
Thermal Fuse (Heating Station A)	Internal temperature of Heating Station B has reached 85° C. The over-temperature prevention function is running.	Temperature control at Heating Station B is stopped. All other functions are running normally.	Stop processes using Heating Stations. Contact Sakura Technical Support Department.
No Communication With Film Coverslipper	Settings show that the Film and Prisma should be connected but communication cannot be reached.	Communication between the Prisma and Film cannot be established.	Check to see if the Film is ready for use or communication cable between the Prisma and Film is correctly connected.
Film Operation Stop	Hood was open during operation and could not transfer the Film loading station to the Prisma.	Slides will be transferred to and End Station until the Film loading station is available.	Close hood and perform recovery process; reestablish communication with Film.
File System Error (A Drive)	Memory card in the A Drive is unrecognizable.	Data cannot be transferred into memory card in the A Drive. All functions including staining processes are usable.	Use another readable/writeable memory card.
File Not Found (A Drive)	Failed to detect file in A Drive.	Data cannot be transferred into memory card in the A Drive. All functions including staining processes are usable.	Insert memory card in the A Drive. If error still occurs, use another readable/writeable memory card.
No Space in Memory Card	Shortage of memory card capacity	Data cannot be transferred into memory	Replace the memory card in A Drive.

Message	Description	Function	Recovery Action
(A Drive)	in A Drive.	card in the A Drive. All functions including staining processes are usable.	
Write-protect Error (A Drive)	Detected a write-protection error with the memory card in A Drive.	Data cannot be transferred into memory card in the A Drive. All functions including staining processes are usable.	Release the write-protection under A Drive.
File System Error (B Drive)	Memory card in the B Drive is unrecognizable.	Instrument functions with control information that was initially stored. All functions including staining processes are usable.	Change settings to use the instrument's initial values for controlling.
File Not Found (B Drive)	Error detected with memory for control during its read/write of file in B Drive.	Instrument functions based on control information of memory. All functions including staining processes are usable.	Restore information settings.
Wrong password. Reenter password	Password entered does not match with the one registered in the instrument.	Suspends password input if password is entered 3 times.	Reenter (restore) information under setting operation.
No program to perform.	There is not a usable staining program with the current station configuration when pressing the "Start Staining" button. When "Start Staining" button is pressed, the current station configuration is set for special stains without having the special stain reservoir tray set. When "Start Staining" button is pressed, the current station configuration is NOT set for special stains with the special stain reservoir tray set.	Message display only.	Change Station Configuration to the desired program. Remove or insert Special Stain Reservoir Tray accordingly.
Please set 10-Slide Basket Adapter.	Staining program requires the 10-Slide Basket; the 10-slide Basket Adapter is not placed into the instrument.	Message display only.	Set the 10-Slide Basket Adapter in the Load Stations and use the 10-Slide Basket.
Door is Open	Staining process cannot be started because the door is open.	Message display only.	Close the door and start the staining process.
Cover (Hood) is Open	Staining process cannot be started because the Hood is open.	Message display only.	Close the Hood and start the staining process.
Station Configuration shows Special Stains, but the special stain solution reservoir tray is not set.	When "Start Staining" button is pressed, the current station configuration is not set for special stains but the special stain reservoir tray is not set.	Message display only.	Set Special Stain Reservoir Tray in the instrument.
Station Configuration does not show special stains but the special stain solution reservoir is set.	When "Start Staining" button is pressed, the current station configuration is not for special stains but the special stain solution reservoir is set.	Message display only.	Remove the Special Stain Reservoir Tray and replace it with the Standard Solution Reservoir Tray.
Cover (Hood) is Open. Staining process is stopped.	Cover (Hood) was opened during the staining process and processes have stopped.	Emergency stop condition.	Close the cover and perform recovery operation.
Cover (Hood) is Open. Robotic arm has stopped.	Cover (Hood) was opened during the staining process and the robotic arm has stopped.	Emergency stop condition.	Close the cover and perform recovery operation.
Door is Open. Staining	Door was opened when the robotic	Emergency stop condition.	Close the door and perform recovery

# TROUBLESHOOTING

Message	Description	Function	Recovery Action
process is stopped.	arm was moving to the front row reservoirs.		operation.
Robotic Arm cannot be moved due to an emergency stop.	Due to an emergency stop during a basket transfer by the robotic arm, the instrument could not judge if the robotic arm could be moved during the recovery process.	Emergency stop condition.	Perform recovery operation.
End Station is full.	End Station or P/E station is/are full and the processes in progress cannot be continued.	Processes that cannot continue will stop. Processes that can will continue.	Remove basket(s) promptly from the end stations and/or P/E Station.
The reagent or filter has exceeded its usage limit.	Solution under management method has exceeded the set time (Days or Runs). When managing filter usage, set time has been exceeded.	All functions are usable including staining process.	Replace reagents or filters exceeding the usage limit.
Name is duplicated.	Solution Name already exists. Station Configuration Name already exists. Staining Program Name already exists.	Message display only.	Select other unused name for solution. Select other unused name for station configuration. Select other unused name for staining program.
Programs cannot be registered. There is no step with designated processing time.	There is not step to process when executing staining process and staining program was not registered.	Message display only.	Revise staining program.
Programs cannot be registered. There is no step with designated processing time.	There is a step that cannot be performed when executing staining process and staining program was not registered.	Message display only.	Revise staining program.
Password duplication (password already exists)	Password entered has already been registered as a password.	Message display only.	Input a number that is not already registered.



# SERVICE AND REPLACEMENT PARTS

## Service Information

### *When a Problem Occurs*

When a problem occurs during operation of the Tissue-Tek® Prisma® Automated Slide Stainer, refer to Section 7, Troubleshooting, to determine the most likely cause of the malfunction and to obtain recommended corrective actions. (Avoid problems by carefully following the proper operation and maintenance procedures described in this manual). If the problem cannot be solved and an instrument failure is apparent, our Technical Support Department is available to assist you.

Before calling for instrument service, please have **model number, installation date, and warranty period** ready for our Technical Support Department Representative. For your convenience and reference, record this information in the blanks below.

Slide Stainer Model Number \_\_\_\_\_

Slide Stainer Serial Number \_\_\_\_\_

Installation Date \_\_\_\_\_

Warranty Period \_\_\_\_\_

### *Where to Call for Service*

If located within the United States, contact the Technical Support Department of Sakura Finetek U.S.A., Inc. by calling toll free:

(800) 725-8723 - Menu Option 2

In countries other than the United States, contact the nearest authorized Sakura instrument distributor or representative for service information and assistance.

## Replacement Accessory Items

For All Models

Product Number	Description
4768	20-Slide Basket
6135	20-Slide Basket Load/Unload Adapter
6136	20-Slide Basket Adapter
6137*	10-Slide Basket
6138*	10-Slide Basket Adapter
6139*	10-Slide Basket Load/Unload Adapter
6140*	Special Stain Solution Reservoir, 160 ml
6141*	Heated Solution Reservoir
6144*	Special Stain Reservoir Lid
6147	Standard Solution Reservoir, 680 ml
6148	Load/Unload Reservoirs w/ handle
6149	Wash Reservoirs, 850 ml
6152	3-Position Reservoir Tray
6153	3-Position Reservoir Lid
6154	4-Position Reservoir Tray
6155	4-Position Reservoir Lid
6156*	Special Stain Reservoir Tray
6160	Activated Carbon Filter
6161	Station Labels (Start, End, PE)
6162	Basket Adapter Label
6163	Control Panel Protection Sheet
6164	Compact Flash Card

\* Available for product #6131 only

## Optional Accessory Items

For All Models

Product Number	Description
6134	Tissue-Tek Film Link System
6145	Small Solution Reservoir, 260 ml
6165	Duct Connection Adapter, 38 mm dia.
6166	Duct Connection Adapter, 75 mm dia.

# SERVICE AND REPLACEMENT PARTS

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