

State-of-the-art solutions for performing many of the steps in sample preparation prior to either light or electron microscopy



# **Laboratory Microwave Ovens**



# **EMS 9000**

**Precision Pulsed Laboratory Microwave Oven** 

State-of-the-art solution for performing many of the steps in sample preparation prior to either light or electron microscopy

#### **Overview**

The EMS 9000 Laboratory Microwave Oven represents a state-of-the-art solution for performing many of the steps in sample preparation prior to either light or electron microscopy. Procedures such as fixation, staining, dehydration, decalcification, impregnation, polymerization as well as immunohisto and cytochemistry can be done with ease in the EMS 9000.

The EMS 9000 offers a significant reduction in processing times while obtaining improved results.

#### **Features**

- 900 watt nominal output with variable wattage
- Bubble manifold for 5 tubes
- Forced exhaust system with fail-safe interlock
- Adjustable duty cycle-one second and greater for very precise process control
- Magnetron pre-warming
- Right side closet
- Vacuum system for rapid infiltration (optional)
- Load cooler/circulation system (optional)
- Three different timer modes
- Multiple safety interlocks
- Visual and aural warnings on errors and malfunctions
- All controls are automated
- Flexible temperature probe

#### **Advantages**

- Ease of use: User-friendly touch keypad to set and store all parameters-programmable
- Multiple running modes
- Multiple bubble mixing (5 ports)
- Adjustable temperature probe
- Ventilation
- Optional vacuum cycling for rapid infiltration
- Optional Load cooler
- Safety exhaust fans with fail safe interlock
- Integrated on board digital controller



#### **For Optimum Results**

The EMS 9000 features a touch pad keyboard that allows for all settings to be programmed quickly and easily. With a very well defined adjustable effect, accurate temperature control, well ventilated chamber, and three different timing modes, the EMS 9000 is the most advanced microwave processor available today.

#### **For Temperature Control**

Our temperature control not only prevents the tissue in the chamber from becoming denatured (by high temperature) but it also assists in pulsing the microwave effect in small precise portions. The temperature control has a direct effect on the magnetron for it allows the unit to switch on and off in the most efficient way at the preset effect level. The temperature probe is mounted on a ball swivel that allows for easy placement of the probe within the microwave chamber. In addition, the probe is made from stainless steel and it is quite flexible so that it may be bent and formed as required to place it in various shaped containers. The temperature sensor is located at the tip of the probe.

#### **Bubble Mixing from up to 5 Tubes**

Inside the chamber there is a manifold for up to 5 tubes that allows you to achieve bubble mixing in from one to five containers at the same time. There is a built in air pump that facilitates the mixing and avoids temperature gradients in the mixing process. These adjustable bubble mixers make the EMS 9000 ideal for decalcification.



# EMS 9000 Precision Pulsed Laboratory Microwave Oven

#### **Adjustable Set Effect**

The set effect is adjustable at anytime either before or during a run. This aids in the balance of the microwave load and the content of the microwave absorber. It should be noted that the penetration rate and process times are influenced by the presence of microwave radiation in the chamber and for this reason it is imperative that the effect rate be adjustable. The unit allows for preset parameters, which are stored in the EMS 9000 memory and are called upon to perform particular processes automatically.

## Our oven is so versatile that you have the option to run it in three different modes depending on your application:

#### 1. Dual mode

- a.) Time at temperature—The timer starts after the selectable threshold temperature is reached.
- The timer measures the time of the process at the set point temperature b.) Total time—The timer starts upon entry into "run" state and measures the total time of the process including the ramp-up time.
- 2. Extended timer range of 99 hours: 59 minutes: 59 seconds
- 3. Count up and count down timing

# The EMS 9000 processor has two microwave power control modes.

- Temperature—Under the temperature control, the power is adjusted in a closed loop fashion to obtain a particular temperature profile.
- Power—Under power control, the power is adjusted in a fashion that ignores the process temperature as a control factor. In both of the control methods power output is pulsed with a one second cycle time. However, because the EMS9000 can supple power pulses as short as 120 milliseconds, the power output can be finely tuned to provide excellent control in both modes.

# The system has many unique safety features that make the EMS 9000 the safest unit on the market!

The on-board screen will caution and shut down the system if there is high probe temperature, system over temperature; keyboard error; inoperative vent or low probe temperature.

The oven chamber is made entirely of stainless steel and is very easy to clean .It is extremely resistant to all staining solutions and solvents. The floor of the unit is ceramic which serves as a thermal insulator and will not absorb microwaves and it is completely chemical resistant.

The EMS 9000 is designed for easy operation and maintenance. All of the controls can be set with one hand and are easily accessible allowing for changes at anytime.

The unit has a built-in reflector inside the chamber that evenly distributes the microwaves and prevents "hot spots" from forming even for very small volumes.

#### **Specifications**

Microwave Output:	825 W
Effect Range:	0-100%
Temperature Range:	0-120°C
<b>Temperature Accuracy:</b>	Timer error: <0.1%
	in all modes
<b>Temperature Readout U</b>	Ipdate Rate: once/sec
<b>Temperature Readout A</b>	
<b>Power Control Accuracy</b>	y: error <1%
Air Agitation:	Total air agitator flow is
	1 liter per minute nominal
Internal Lighting:	Chamber Lighting available
	at all times via keyboard switch
	(40 watt incandescent lamp)
Fluid Ports:	2 ports supplied as a standard -
	accepts up to 3/16" hose.
Pulse Length:	1 second
Timer Value:	0-99:59:59
Vent System:	Vent fan rated at 106 CFM nominal
Input Power:	15A at 120 Volts nominal
	10A at 230 Volts nominal
System Dimensions:	19"High x 21.5"Wide x 24.5"Diameter
	(48.3cm x 54.6cm x 62.2cm)
Microwave Chamber:	9.5" High x 13.5" Wide x 15.5" Diameter
	(24.1cm x 34.3cm x 39.4cm)
Weight:	70 lbs.
Continuous Run:	Timer override works as a count up timer
	for an indefinite period of time.

#### **Safety Interlocks:**

- \* Vent interlock inhibits operation unless vent airflow is normal
- \* Primary Door Interlock
- \* Secondary Door Interlock
- \* Monitor Switch Short circuit of the magnetron when door is open
- \* Oven temperature Switch
- 100, 120, 230 volt models FCC approved, CSA NRTL approved.

#### **Ordering Information**

#### Includes:

- 8' Ventilation Hose User's Manual Microwave Companion
   Processor Tray Vacuum Processor Bowl (when ordering Vacuum option)
   Vacuum Processor Cover (when ordering Vacuum option)
- 74 Position Cassette Basket Set (2) Histoprocessing Bowls
- (2) Microwave Transparent Containers Polar Heat Sample Pack
- Preserve Solution

Cat. No.	Description	Qty.
97030	EMS 9000 Laboratory Microwave Precision	
	Pulsed Microwave Oven.	
	Complete with: Integrated Vacuum Pump,	
	Remote Temperature Probe, Stirrer Antenna,	
	Microwave Cookbook; Microwave Tool book	each

# **EMS 9000**

**Optional Accessories** 

**EMS EXCLUSIVE** 

#### EMS 9000 Processing Chamber

Microwave processing tissues for electron microscopy can yield inconsistent results caused by different microwave distribution patterns within the microwaves chamber. Exact, consistent placement of samples



Sturdy, heat & chemical resistant guide allows exact placement of processing chamber every time.

within the chamber is key to achieving uniform results. After two years of development and testing at a leading University Hospital, Electron Microscopy Sciences is proud to introduce the MPC 9000. The MPC 9000 developed only for our use in our top-of-the-line EMS 9000 laboratory microwave processor, hits the target that every laboratory needs: consistent processing, vacuum infiltration, and quick specimen turnaround.

#### **Features:**

- Sturdy heat and chemical resistant guide frame.
- Uses standard EMS Lynx I & II specimen handling technology
- Two tip-proof processing stations for disposable processing vials.
- A wide range of processing baskets configurations available.
- Feed-through for process temperature probe placement while under vacuum.
- Low maintenance chamber disassembles for easy cleaning.



Lynx I specimen vial are locked in and tip-proof during processing. That's the specimen basket it holder assembly in the rear vial.



User may mix and match the basket configuration to match the workload

Cat. No.	Description	Qty.	
97045	MPC9000 Microwave Processing Chamber	each	

#### **EMS 9002 Vacuum Processor (factory-installed option)**

Made from Pyrex® glass which offers better temperature conductivity and stability than any other material and is chemically resistant and microwave transparent.

The EMS 9002, when used in conjunction with our EMS 9000 processor, improves ultra-structural preservation during microwave assisted chemical fixation and reduces infiltration times dramatically.

#### **Specifications**

Vacuum Pump — Voltage: 115V, Amps: 2.6, CFM (Free Air): 0.8, Fittings: 1/4" I.D. tubing

Cassette Rack — Material: All PTFE, Capacity: 74 cassettes

Vessel — Dimensions — Tray: 12" x 10" x 5"

**Bowl** — 9.75" diameter x 2" depth, Liquid Capacity: 2.9 liters, Vacuum Cover Material: polypropylene, Fittings: 1/4" I. D. Tubing

Cat. No.	Description	Qty.
97050-A	EMS 9002 Vacuum Processor, factory installed option	
	includes: Processing Vessel, Cassette Rack, and Vacuum Pump.	each

#### **Accessories for the EMS 9002 Vacuum Processor**

Vacuum Processor Kit: For vacuum processing of tissue samples in the Vacuum Microwave Processor. Includes: Vacuum Processor Bowl (2825/1), Processor Tray (2825/3), Vacuum Processor Tubing Kit (2825/4), 74 Cassette Processing Rack (2825/6)



Cat. No.	Description	Qty.
97052-10	Vacuum Processor Kit	each

**Vacuum Processor Tubing Kit:** Used in conjunction with Vacuum Processor Bowl (H2825/1) and Vacuum Processor Cover (H2825/2).

Cat. No.	Description	Qty.
97052-11	Vacuum Processor Tubing Kit	each

**Non-Vacuum Processor Kit:** For processing of tissue samples in the H2850 Microwave Processor. **Includes:** Non Vacuum Processor Bowl (H2825/5), Processor Tray (H2825/3), 74 Cassette Processing Rack (H2825/6)



Cat. No.	Description	Qty.
97052-12	Non-Vacuum Processor Kit	each

**74 Cassette Processing Rack:** For cassette storage during tissue processing.

Cat. No.	Description	Qty.
97052-13	74 Cassette Processing Rack	each



**Processor Tray:** Used to transfer processor bowls in and out of microwave processors. Made of durable microwave transparent polypropylene plastic.

Cat. No.	Description	Qty.
97052-13	74 Cassette Processing Rack	each



**Vacuum Processor Bowl:** Used in conjunction with Vacuum Processor Cover and Vacuum Processor Tubing Kit.

Non-Vacuum Processing Bowl: Not for use with vacuum attachments



vacuum attaciments		
Cat. No.	Description	Qty.
97052-15	Vacuum Processing Bowl	each
97052-16	Non-Vacuum Processing Bowl	each

### Staining and General Purpose Laboratory Microwave Ovens

97500 and 97550

#### **Staining and General Purpose Microwave Oven**

All-in-one-microwave provides continuous power controller and 2-second magnetron cycle time for super fine control. Excellent for rapid special stain procedures.

#### **Features**

- "Dial in" desired power from 20% 100%
- Adjustable air agitation ensures even temperature and reagent dispersion for all specimens
- Stainless steel interior and exterior for easy maintenance, long life
- Preset & variable time entry
- Digital countdown timer, accurate to 1 second
- High-performance vent system with standard 4" output; connect to fume hood or vent stack
- Microwave stirrers (no carousel necessary) for even microwave distribution, no "hot spots"
- "User friendly" controls, icon-based functions
- Tall chambers, for tall containers and vessels
- Illuminated interiors with stain-resistant ceramic floors
- USA manufacture; FCC compliance
- Helps meet CAP ANP.29430, OSHA 29CFR 1910.303(b)(2), NCCLS GP28-P guidelines



#### **Accessories**

The Staining and General Purpose Microwave Oven includes:

8' Ventilation Hose User's Manual

#### **Ordering Information**

Cat. No.	Description	Qty.
97500	Staining and General Purpose Laboratory Microwave	each



#### **Specifications:**

Exterior dimensions (WxHxD): 22" x 13.5" x 23 9/16"

(55.88cm x 34.29cm x 59.85cm)

Interior dimensions (WxHxD): 14.5" x 9.25" x 14.5" (36.83cm x 23.5cm x 36.83cm) Weight: 70 lbs **Power output:** 840W 15A at 120v nominal Input power: Vent system output: 100cfm Presets available: 20 **Number of power settings:** 

## **General Purpose Microwave Oven**

The most affordable general-purpose laboratory microwave oven ever, featuring high-performance fume extraction. Excellent for general laboratory use (slide drying, histology staining, etc.).

#### **Features**

- (5) built-in calibrated power settings
- Stainless steel interior & exterior for easy maintenance, long life
- Digital countdown timer, accurate to 1 second
- High-performance vent system with standard 4" output: connect to fume hood or vent stack
- Microwave stirrers (no carousel necessary) for even microwave distribution, no "hot spots"
- "User friendly" controls, icon-based functions
- Tall chambers, for tall containers and vessels
- Illuminated interiors with stain-resistant ceramic floors
- USA manufacture; FCC compliance
- Helps meet CAP ANP.29430, OSHA 29CFR 1910.303(b)(2), NCCLS GP28-P guidelines

#### **Accessories**

The General Purpose Microwave Oven includes:

■ 8' Ventilation Hose ■ User's Manual

#### **Ordering Information**

Cat. No.	Description	Qty.
97550	General Purpose Laboratory Microwave	each

#### **Microwave Leakage Detector**

Evaluate microwave oven leakage and other environmental safety concerns. Features maximum and minimum hold, an audible alarm, and a zero adjustment to eliminate background EMF. The display also indicates overload and low battery. Comes with a soft carrying case and standard 9V battery, which provides approximately 100 hours of use.

**Dimensions:** 51/4" x 21/4" x 11/4" (130 x 56 x 38mm). Weight: 6oz (170g).



#### **Specifications**

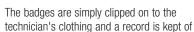
Display	3¾ digits, maximum reading 3999
RF Power Density	0.003~2.700 mW/cm <sup>2</sup>
RF Frequency	50MHz ~ 3.5GHz
Microwave Frequency	2450MHz
Resolution	0.001mW/cm <sup>2</sup>
Accuracy	±2dB @ 2.45GHz ±50MHz
Axis	Single
Alarm	@ readings >1mW/cm <sup>2</sup>
Operating Temp	41°F ~ 104°F (5°C ~ 40°C)
Operating RH	<80% RH

Cat. No.	Description	Qty.
72083-00	Microwave Leakage Detector	each

#### AirChek® Badges

Monitor vapor levels, simply and effectively.

Airchek Badges provide an innovative, simple and effective system for monitoring vapor levels, including Formaldehyde, Glutaraldehyde, Xylene, Toluene, and Isopropanol.



name, location and time, providing continuous sampling for personal monitoring and allowing the measurements required under Government regulations.

One badge provides continuous sampling over 8 hours. A second badge can be used to supply information for analysis of 15-minute peak exposure periods.

Cat. No.	Description	Qty.
64472-10	AirChek® Badge, Formaldehyde	6/pk
64472-20	AirChek® Badge, Glutaraldehyde	6/pk
64472-30	AirChek® Badge, Xylene	6/pk
64472-40	AirChek® Badge, Toluene	6/pk
64472-50	AirChek® Badge, Isopropanol	6/pk

#### **Alpha-Numeric Oven Tray\***

#### **EMS EXCLUSIVE**

Made from polypropylene, Each line is spaced 1 cm apart with letters along the sides and numbers across the top and bottom. This tray has ruled lines that aid in the reproducible placement of the specimens in the oven.



Cat. No.	Description	Qty.
97035-01	Alpha-Numeric Oven Tray	each
	1 7	

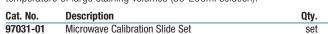
# Microwave Calibration Slide Set\*

#### **EMS EXCLUSIVE**

A calibration slide for microwave staining. A set which includes two glass slides. Slide #1 has liquid crystal squares corresponding to the following temperatures: 35°C, 40°C, 45°C; Slide #2 has liquid crystal squares corresponding to the following temperatures: 50°C, 55°C, and 60°C.

This calibration set will ensure reproducible programming of the oven to achieve an ideal target

temperature of large staining volumes (50-200ml solution).



# Calibration Slide #1 Calibration Slide #2 Slide #2

#### Stain-'N'-Temp Slide\*

#### **EMS EXCLUSIVE**

This device is used as an aid when programming a microwave oven to achieve an ideal target temperature of 20-100ml staining



volumes. The tool is designed to give quantitative temperature information about the droplet during staining of tissue sections on electron microscope grids.

This unit is a 4-well PTFE-coated glass slide, each well 8mm in diameter which will maintain the uniform shape of the droplet; 4 liquid crystal temperature strips ranging from  $35^{\circ}$  to  $50^{\circ}$  are affixed to each well to monitor the microwave oven temperature.

Cat. No.	Description	Qty.
97030-01	Stain-'N'-Temp Slide	each
97030-06	Stain-'N'-Temp Slide	6/pk

#### Fix-'N'-Temp Container\*

#### **EMS EXCLUSIVE**

This container will permit rapid specimen handling and provides temperature information during microwave irradiation. A liquid crystal strip is affixed into the bottom of a 35mm diameter petri



dish and covered with a thin layer of EMbed resin. The temperature range is 35°C–60°C. This container is ideal for tissue fixing by microwaves. The two active temperature windows are 45°C and 50°C.

Cat. No.	Description	Qty.
97033-01	Fix-'N'-Temp Container	each
97033-06	Fix-'N'-Temp Container	6/pk

#### **Microwave Supplies and Calibration Aids**

#### **Neon Bulb Array\***

#### **EMS EXCLUSIVE**

This Neon Bulb Array is made from silicone and has many advantages:

- 1. Silicone has a high resistance to extreme heat.
- 2. The silicone holds each bulb snugly and prevents bulb spillage during handling.

Each bulb in the mat is 2.5cm apart. The mat is divided into quadrants. A mark on the back left corner of the array lid is used to key the back left corner of the oven. There are letters and numbers along each edge for easy placement on the Alpha-numeric tray. The mat size is 8"x 8".

97036-01 Neon Bulb Array

The above microwave accessories are developed in collaboration with Dr. Gary Login, Beth Israel Hospital, Boston, MA.

#### **Incubation Tray for Microwave Immunostaining**

For immunostaining, we recommend a water load that is the same size as the bottom of the microwave cavity in order not to disturb the distribution of microwave energy within the cavity. In our research, we found that between 150 and 200ml of water in the bottom of the incubation tray prevents



evaporation of the droplets of reagent. A PAP pen should be used to maintain the droplets at a uniform size and shape.

97060 Microwave Incubation Tray for Immunostaining each	Cat. No.	Description	Qty.
increment incubation may be increased in the second	97060	Microwave Incubation Tray for Immunostaining	each

#### Coverplate™ Technology

The Coverplate Microwave Immunostaining Systems

Shandon Lipshaw's patented Coverplate technology is the foundation of our microwave immunostaining system. Increased quality control, time and reagent savings, specimen protection, and consistent superb quality stains can be expected when using our Coverplate Microwave Immunostaining protocols.

97091	Disposable Cover Plates™	10/pk
97092	Cover Plate™ Slide Rack (holds 10 cover plates)	each

#### **Micro Tube Rack- Microwaveable**

Polypropylene floating racks keep microtubes submerged in a water bath - perfect for controlling sample temperature. Detachable legs give the users more options: attach legs so rack



stands upright on benchtop, or detach legs so sample tubes can be quickly popped out by pushing down onto any surface. Ideally to hold microcentrifuge tube in water bath

during polymerization, such as LR White®, JB4.



Measures: 60 mm high, including legs.

These racks are not autoclavable.

Cat. No.	Wells	Tubes	Shapes/Color	Qty.
72372-SB	16	0.4/0.5 ml	Square (102mm) Black	each
72372-SW	16	1.5/2.0 ml	Square (102 mm) White	each
72372-RB	8	1.5/2.0 ml	Round (68 mm) White	each
72372-R20	20	1.5/2.0 ml	Round (98 mm) White	each

#### **Cassette Rack for Microwave Histoprocessing**

A simple and reliable device designed to hold up to 24 standard cassettes for histoprocessing in a microwave. This new rack is manufactured from PTFE resins, and will withstand repeated exposure

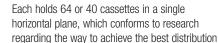


to fixatives, dehydrating agents, clearing agents and paraffin. It is easily cleaned in hot water. It is intended for use with a disposable tray which holds the processing chemicals.

Four processing racks and trays will fit into the EMS 9000 Microwave Processor, so that up to 96 cassettes can be processed in one run. Using this system, the histotechnologist needs to handle the individual cassettes only once, to load them into the racks. The rack is then placed into a tray containing the dehydrating medium, usually 100% ethyl alcohol, and microwaved. After dehydration, the rack containing the cassettes is transferred into a tray containing the clearing agent, usually isopropanol, and microwaved. After clearing, the rack is transferred to a tray containing liquid paraffin, and microwaved. The whole process can take as little as 25 minutes (for small specimens, such as needle biopsies). There are no hazardous chemicals needed (no xylene!).

97050	PTFE Cassette Rack for Microwave Histoprocessing	each
97051	Microwave Histoprocessing Rack with 10 Disposable Trays	set

#### **Formalin Solutions: A New Cassette Holder for Microwave Fixation and Processing**





of microwave energy. It is based upon an original design in wood (the 'Bamboozle') developed by Dr. Richard Dapson of Anatech, Ltd. It is adapted to a pyrex container which allows the paraffin to easily hold its temperature, and minimizes the risk of overheating of specimens due to lack of sufficient microwavable load.

97070-10	Cassette Holder and Tray, holds 64 cassettes	each
97070-01	Tray only	each
97070-02	Cassette Holder only, holds 64 cassettes	each
97071-10	Cassette Holder and Tray, holds 21 cassettes	each
97071-01	Tray only	each
97071-02	Cassette Holder, holds 21 cassettes	each

#### Other Holders, Racks, and Trays

97052-01	Microwave transparent dish	each
97052-04	Microwave Slide Staining Holder	each
97090	Microwave Slide Staining Holders with disposable tray	,
	(each rack holds 24 slides).	6/pk
97082	Microwave-Transparent Trays	50/pk



#### **Containers**

97084	Microwave-transparent jars with wide mouths and vented (2 x 500ml, 1 x 1000ml).	l lids, 3/pk
97088	Microwave transparent "dummy	
	load"vented container	each
97086	Microwave-transparent,	
	small-capacity	
	staining containers	10/pk
97087	Microwave Coplin Jars	
	with vented lid	3/pk





#### **Laboratory Microwave Ovens Overview**

Employing microwave technology in your laboratory, especially in Histology labs, is a simple process and will improve your operation on multiple levels. Whether you become an all-microwave lab or add microwave processing for stats, overflow, special stains and/or myriad other applications, you will find this line of laboratory microwaves to be the most efficient and versatile tool in your lab.

#### **Benefits**

- Fix, Process, Stain, and Decalcify tissue, in a fraction of the time of any other method or Microwave Processor
- Provide greater throughput than any other Microwave processor on the market for samples up to 3mm
- · Reduce reagent use
- Eliminate the need for Xylene in your processing
- Allow a 50% reduction in your use of Xylene and Alcohol for H&E staining
- Open the door to using many safe and environmentally friendly alternative fixatives and clearing agents
- Provide an opportunity to drastically improve the quality of your fatty tissue processing
- · Will not reduce slide quality
- Will not damage or degrade specimen antigenicity
- Does not adversely impact IHC or molecular downstream testing
- · Speeds up laboratory workflow

#### **Time and Cost Savings**

Automation does not necessarily equal speed. Microwaves process tissue far more efficiently and cost-effectively than any other Tissue Processor. These are the fastest Processors on the market.

- Reagent used is directly proportional to the volume of samples being processed
- Xylene Free: use only Alcohols and Paraffin to process tissue with no Xylene clearing steps required
- Process 74 biopsies in < 20 minutes. No other Tissue Processor even comes close.
- Patented Polar Heat Sheets allow ultra-fast Microwave paraffin infiltration

#### **Tissue Processing Times**

Process Small Biopsies	16-35 minute
Process 1–3mm Sections	1 hour
Process Thick, Fatty Sections	2-3 hours
Special Stains	1-20 minutes
Decalcifications	hours

# Microwave Model Comparison







Model	General Lab Microwave	Staining/General Lab Microwave	EMS-9000 Precision Pulsed Microwave
Interior Dim. (W x H x D)	14.5 x 9.25 x 14.5" 36.8 x 23.6 x 36.8cm	14.5 x 9.25 x 14.5" 36.8 x 23.6 x 36.8cm	14.1 x 8.75 x 16.1" 35.8 x 22.2 x 40.9cm
Exterior Dim. (W x H x D)	22 x 13.5 x 24" 55.8 x 34.3 x 60.9cm	22 x 13.5 x 24" 55.9 x 34.3 x 60.9cm	21.7" x 20.5" x 25" 55.2 x 52.1 x 63.5cm
Power Level Control	5 Settings	Dial-in	Programmable
Stored Protocols	20	20	40
<b>Active Ventilation System</b>	X	X	X
Power Balance System	Χ	X	X
CAP/OSHA Compliant	Χ	X	X
User Safety Interlocks	X	X	X
Sample Safety Interlocks			X
Variable Reagent Agitation		X	X
Fine Temperature Control			X
Multi-Step Protocols			X
<b>Integral Vacuum Function</b>			X
<b>Multiple Operating Modes</b>			X
Ultra-Rapid Processing			X
Made in the USA	X	X	X

#### **Applications**

Microwave Processors perform the following critical lab functions, all in a fraction of the time required by conventional methods.

- Fixation
- Dehydration
- Infiltration
- Special Stains
- Immunohistochemistry
- Slide Drying
- Antigen Retrieval
- Decalcifications

#### **Protocols**

Microwave Processors perform the following critical lab functions, all in a fraction of the time required by conventional methods.

#### **Fontana Masson Staining Timeline**

Microwave Staining

Solution	Power	Time
Nuclear Fast Red	High	30 sec
Silver Nitrate High let stand in hot sol for 10 min		45 sec,

#### **Masson Trichrome Staining Timeline**

Microwave Staining

Solution	Power	Time
Bouins let stand in hot sol for	High or 10 min	15 sec,
Biebrich Scarlet- Acid Fuchsin	High	20 sec
PMA/PTA let stand in hot sol for	High or 2 min	20 sec,
Aniline Blue let stand in hot sol fo	High or 1 min	20 sec,

#### Electron Microscopy Sciences

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