M3 UltraFast® Automatic Sterilizer

For models:
M3 (-001 thru -004)

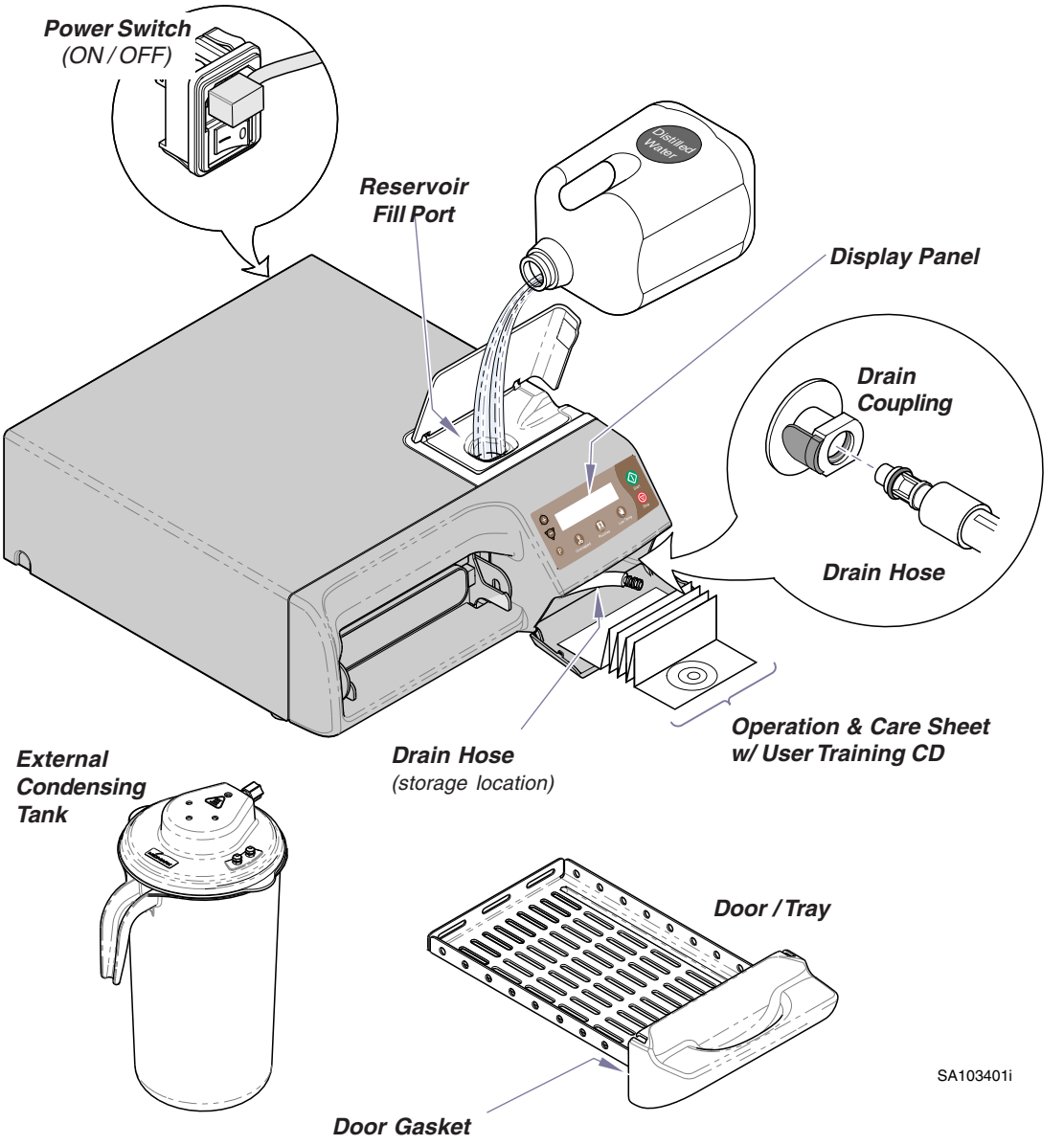
User's Guide

003-1658-00 Rev. P (2/10/14)

Table of Contents

Important Information

Component Location



Intended Use

The M3 UltraFast® Automatic Sterilizer can be used in medical, dental, and veterinary offices, hospitals, clinics, nursing homes, laboratories, and other facilities to sterilize heat and moisture stable reusable items (including dental handpieces) that are compatible with steam sterilization. Refer to *'Loading the Tray'* & *'Cycle Parameters'* in this manual for detailed information.

Electromagnetic Interference

The Midmark M3 is designed and built to minimize electromagnetic interference with other devices. However, if interference is noticed between another device and this sterilizer:

- Remove interfering device from room
- Plug sterilizer into a dedicated circuit
- Increase separation between sterilizer and interfering device
- Contact Midmark if interference persists

Safety Symbols

DANGER

Indicates an imminently hazardous situation which <u>will</u> result in serious or fatal injury if not avoided. This symbol is used only in the most extreme conditions.

WARNING

Indicates a hazardous situation which <u>could</u> result in serious injury if not avoided.

CAUTION

Indicates a potentially hazardous situation which <u>could</u> result in minor or moderate injury if not avoided. It may also be used to alert against unsafe practices.

Equipment Alert

Indicates a potentially hazardous situation which could result in equipment damage if not avoided.

Note

Amplifies a procedure, practice, or condition.


Consult User Guide for important information.


Keep dry


Pressure Limit

2 Person Lift


Proper Shipping

Maximum Stacking Height (Palletted Units)


Humidity Limit


Handle With Care


Fragile


Hot Surface


Storage Temp. Limit


Corrugated Recycle

Transportation / Storage Conditions

> ***Equipment Alert***
> *All water must be removed from the reservoir before transporting or storing at +32°F (0°C) or below.*

Ambient Temperature Range:	-22°F to +140°F (-30°C to +60°C)
Relative Humidity:	10% to 90% (non-condensing)
Atmospheric Pressure:	49.6 kPa to 106.4 kPa (7.2 psi to 15.4 psi)

Operating Environment

> ***Equipment Alert***
> *Unit should be allowed to reach room temperature before operating. Failure to do so could result in damage.*

Ambient Temperature Range: ... +68°F to 104°F (+20°C to 40°C)
Relative Humidity: ..... less than 80% (non-condensing)
(Pollution Degree 2, in accordance to IEC664)
Normal Operating Altitude: ..... less than 9842 ft. (3000 m) above sea level

- Approved for indoor use only
- Environment should be relatively dust-free

Electrical Ratings / Requirements

> ***Note***
> *To ensure unit is properly grounded, it must be connected to a matching grounded, dedicated, correctly polarized receptacle.*

> ***WARNING***
> ***Use 104-127 VAC, 50/60 HZ alternating current only for 115 VAC rated models and 207-253, 50/60 HZ alternating current only for 230 VAC rated models. Failure to do so could result in electrical shock to personnel and will result in damage to sterilizer.***

M3 *(115V model):*	115 VAC, 50/60 Hz, 12 amp
Max. Power Consumption:	1400 Watts
Requires:*	Dedicated supply circuit rated at 120 VAC, 50/60 Hz, 12 amp
M3 *(230V model):*	230 VAC, 50/60 Hz, 6 amp
Max. Power Consumption:	1400 Watts
Requires:*	Dedicated supply circuit rated at 230 VAC, 50/60 Hz, 6 amp

**Power source must have over voltage limits less than 1500 watts from mains to ground. (Installation Category II in accordance to IEC 664)*

Sterilization Monitoring Guidelines

Note

The information below is provided for reference only. Contact appropriate state / local agencies for specific sterilization guidelines for your office. Additional information on infection control is available from the Centers for Disease Control and Prevention (CDC), Organization for Safety and Asepsis Procedures (OSAP), and the American Dental Association (ADA).

Physical Monitors

Temperature and pressure measuring devices can help detect sterilizer malfunctions. The sterilizer's control system aborts the cycle and displays a message if physical conditions go outside established limits. The optional printer can be used to create a record of each load's actual cycle time, temperature, and pressure.

Note

Use only FDA cleared chemical & biological indicators designed for steam sterilization that are compatible with the particular sterilization cycle temperature and exposure time being monitored. Process the load according to your regular practice, placing indicators near the handle side of tray. Follow manufacturer's instructions for proper disposal of used indicators.

Chemical Indicators

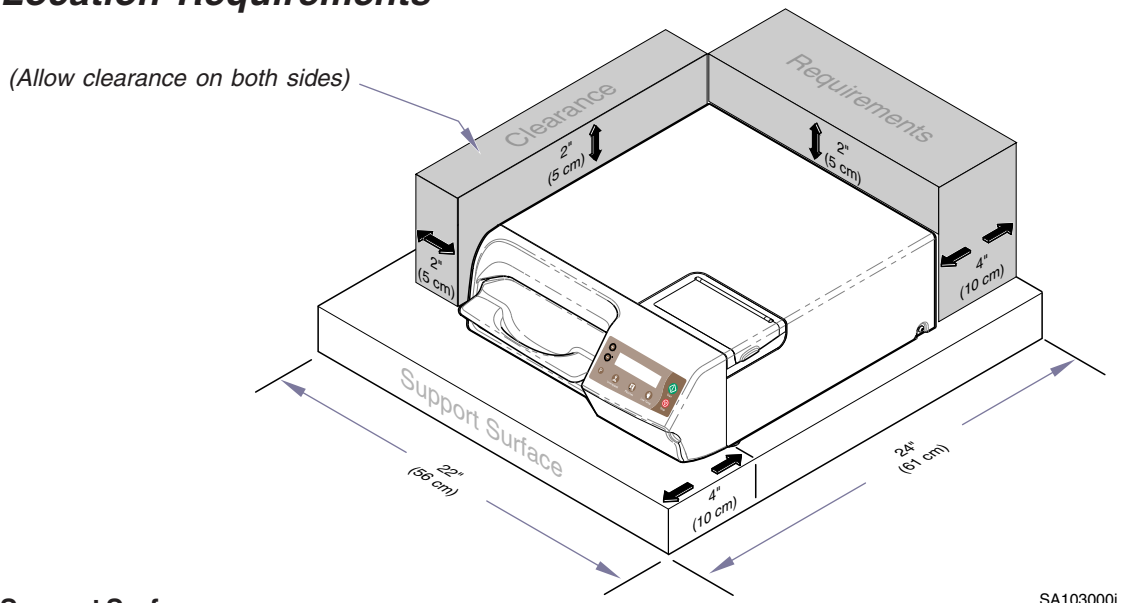
Chemical indicators are designed to verify that conditions in the sterilizer chamber were adequate to achieve sterilization. They do not validate that a processed item is sterile. If a chemical indicator shows a failure, items in that load are considered non-sterile. Potential causes for sterilization failures include: improper packing, loading, or a sterilizer malfunction. Determine the cause of any sterilization failure, and remedy the situation before running the next cycle. Only FDA cleared chemical indicators labeled for use with the nontraditional steam sterilization cycle parameters, e.g. temperature and exposure time, of the M3 Sterilizer should be used for monitoring the three M3 UltraFast® cycles. Follow the chemical indicator's instructions for proper storage, use, interpretation, and disposal.

Biological Indicators

Biological indicators are microbiological devices designed to accompany items being sterilized to monitor adequacy of the sterilization process. If a biological indicator shows a failure, items in that load are considered non-sterile. Potential causes for sterilization failures include: improper packing, loading, or a sterilizer malfunction. Determine the cause of any sterilization failure, and remedy the situation before running the next cycle. Only FDA cleared biological indicators labeled for use with the nontraditional steam sterilization cycle parameters, e.g. temperature and exposure time, of the M3 Sterilizer should be used for monitoring the three M3 UltraFast® cycles. Follow the biological indicator's instructions for proper storage, use, interpretation, and disposal.

Installation

Location Requirements



Support Surface

- Material should be water-resistant material
  (Ex. laminate, stainless steel, stone, etc.)
- Surface must be level to ensure proper operation.
- Surface should meet minimum dimensions listed below:

Dimensions

Depth (front to back) ..... 24 in. (61 cm)
Width (side to side) ..... 22 in. (56 cm)

Clearance Requirements

To ensure proper air circulation, and to allow access to the reservoir fill port and drain coupling, adhere to the minimum clearance requirements listed below.

Clearance Requirements

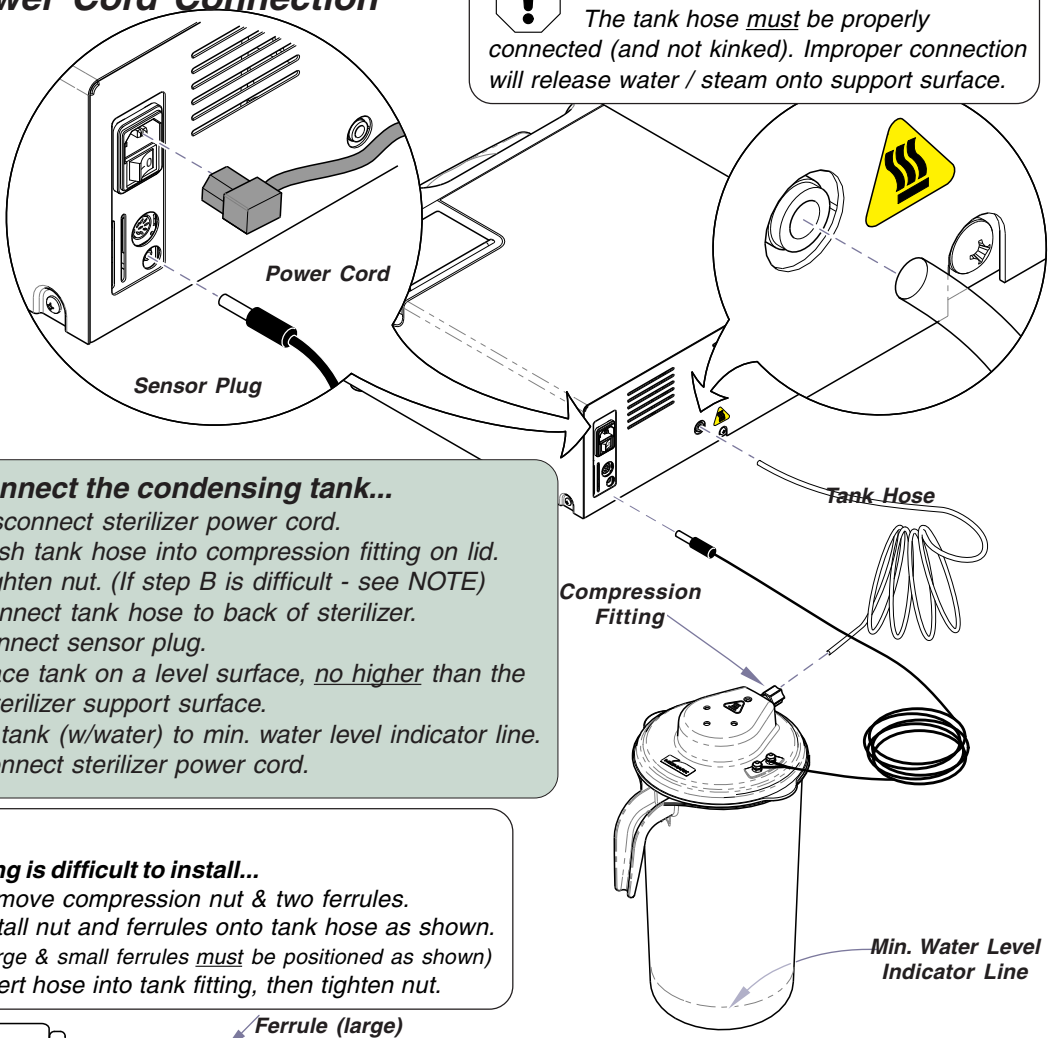
Back of Unit - Back Wall ..... 4 in. (10 cm)
Front Sterilizer Feet - Front of Support Surface ..... 4 in. (10 cm)
Side of Unit - Side Wall ..... 2 in. (5 cm) each side
Distance Above Unit* ..... 2 in (5 cm)*

** The minimum clearance for proper air circulation is listed.*
However, be sure to allow access to the reservoir fill port located on top of the sterilizer.

External Condensing Tank & Power Cord Connection

Equipment Alert

The tank hose must be properly connected (and not kinked). Improper connection will release water / steam onto support surface.



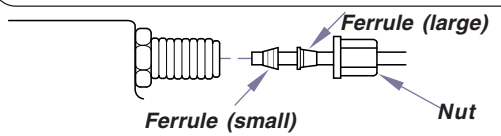
To connect the condensing tank...

A. Disconnect sterilizer power cord.
B. Push tank hose into compression fitting on lid. Tighten nut. (If step B is difficult - see NOTE)
C. Connect tank hose to back of sterilizer.
D. Connect sensor plug.
E. Place tank on a level surface, no higher than the sterilizer support surface.
F. Fill tank (w/water) to min. water level indicator line.
G. Connect sterilizer power cord.

Note

If tubing is difficult to install...

A. Remove compression nut & two ferrules.
B. Install nut and ferrules onto tank hose as shown. (Large & small ferrules must be positioned as shown)
C. Insert hose into tank fitting, then tighten nut.



Note

Clearance...

Maintain a minimum of 6" clearance above the condensing tank for proper steam ventilation. The support surface and surrounding surfaces if enclosed, should be protected with a water resistant material (e.g. plastic, laminate, stainless steel, etc.) If enclosed in a cabinet, it's recommended that the door be vented to avoid heat, moisture build up and potential damage to the inside of cabinet.

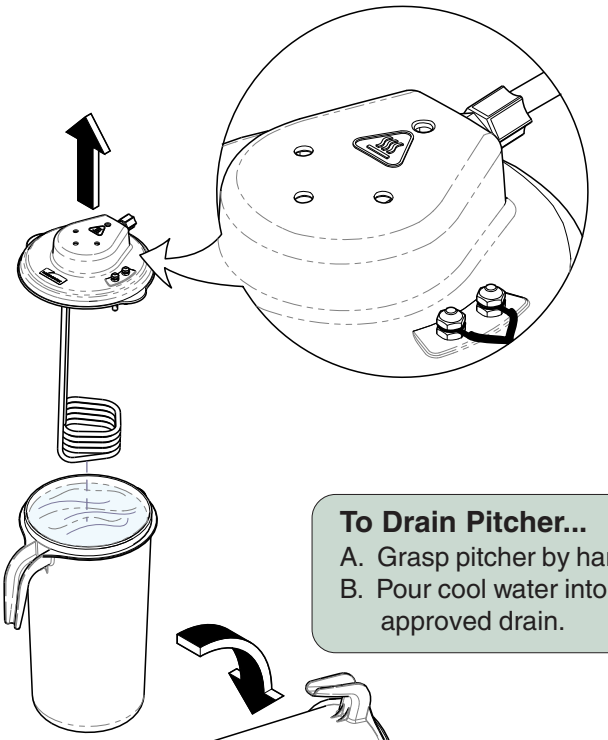
External Condensing Tank Draining Procedure

CAUTION

Water that is discharged to external condensing tank can be VERY HOT; person emptying pitcher should allow the temperature to cool. Always use carrying handle and use caution when emptying.

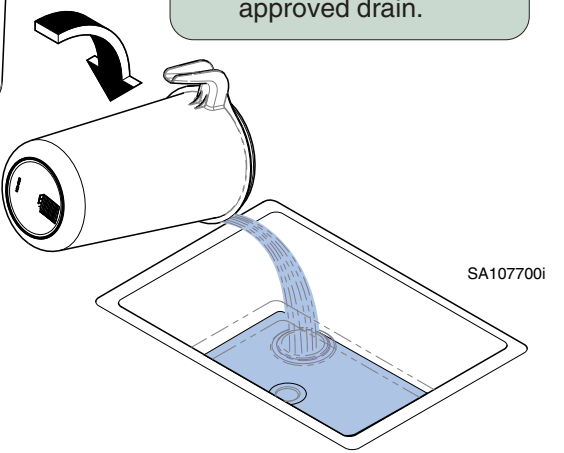
To Remove Lid...

A. Rotate lid counterclockwise.
B. Lift lid assembly out of condensing tank pitcher.



To Drain Pitcher...

A. Grasp pitcher by handle.
B. Pour cool water into an approved drain.



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To Replace Lid...

Note: *Lid can be reinstalled in one of four locations to facilitate safe water disposal.*

A. Insert lid assembly into pitcher.
B. Align tabs for correct positioning.
C. Rotate lid clockwise to secure.

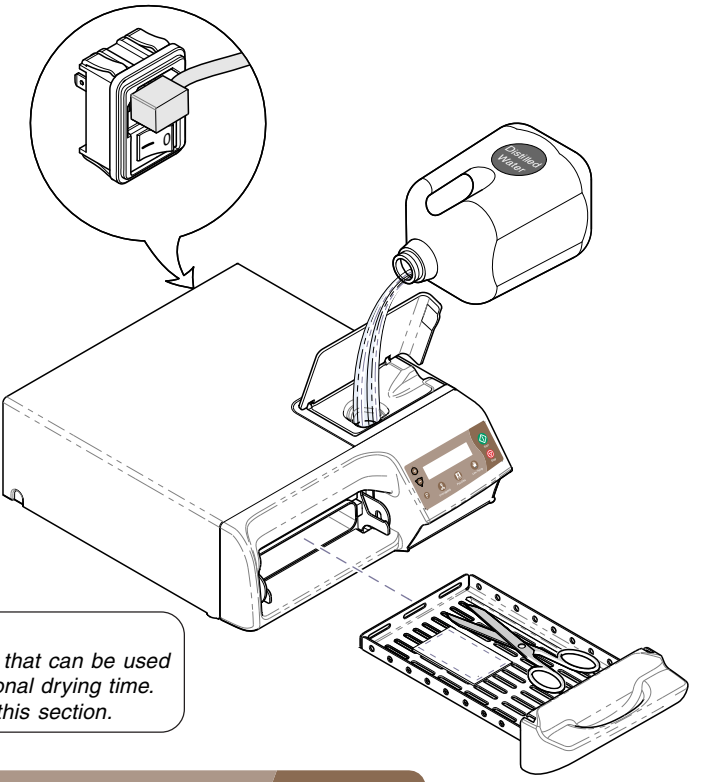
Operation

Quick Reference

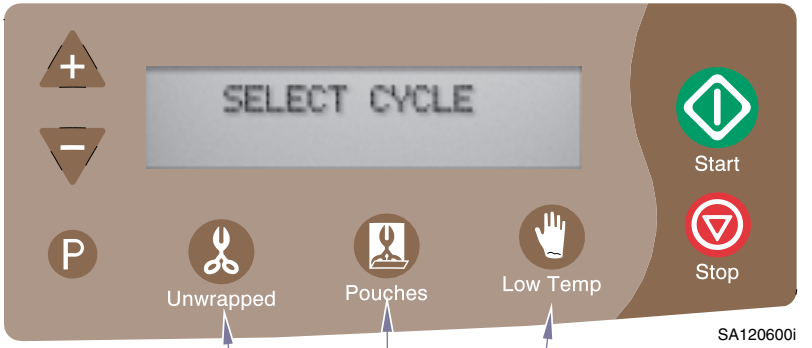
(Detailed instructions for each step are outlined in the following pages of the Operation section).

Basic Operation

A. Turn power switch ON (I).
B. Fill reservoir.
C. Load tray.
D. Press desired cycle button.
*E. Press <**Start**> button.*



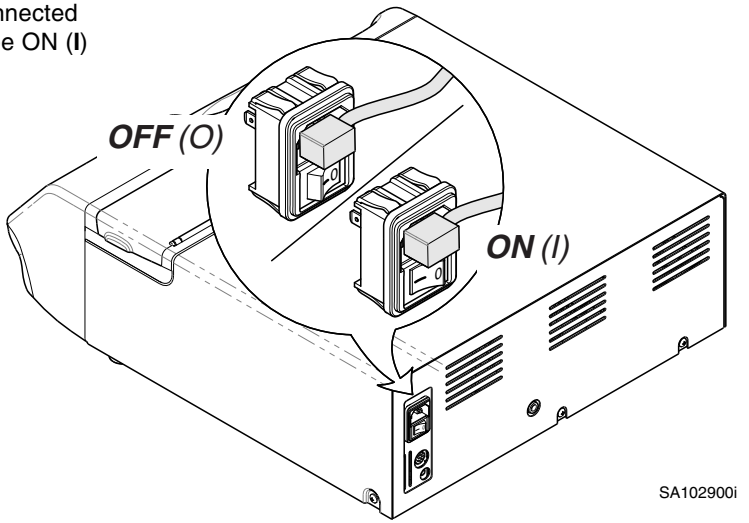
Note
*There is a 10 minute (dry) heat cycle that can be used to pre-heat the chamber, or for additional drying time. Refer to: **'Additional Heat' Cycle** in this section.*



Cycle Buttons

Power Switch

The power cord must be connected and the power switch must be ON (**I**) for the sterilizer to operate.



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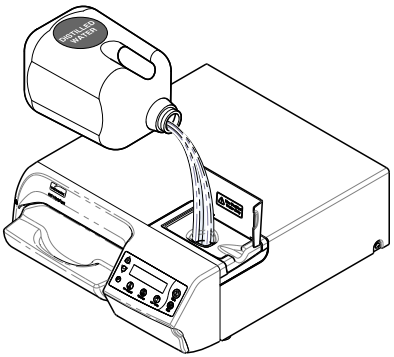
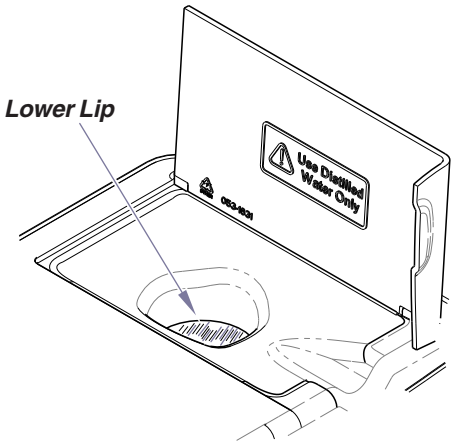
Filling the Reservoir

To fill reservoir...
Pour one (1) gallon of distilled water into fill port.
Do <u>not</u> fill above lower lip of fill port.





Equipment Alert
Use distilled water <u>only</u>!
Failure to comply may result in sterilizer malfunction due to excessive corrosion.

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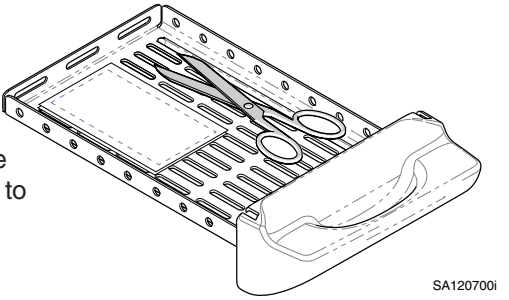
Loading the Tray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Types of Items
Before placing any instrument in the M3 UltraFast®, check with the instrument manufacturer to be sure the materials are compatible with steam sterilization, and to verify the acceptability of sterilization parameters.

The M3 is designed to sterilize the following:

- High & low speed handpieces
- Metal instruments
- Rubber / plastic devices (ex. suction cannulas, impression trays, etc.)
- Wrapping / bundling materials (ex. CSR wrap, instrument pouches, etc.)
- Cassettes (Hu-Friedy Signa-Stat [6.5" x 10.5" x 1.25"] or smaller)
- Surgical instruments (ex. ophthalmologic instruments)

Equipment Alert

Do not sterilize items composed of any of the following materials in the M3:

- *Corrosion sensitive metal (ex. carbon steel, iron, etc.)*
- *Fragile items susceptible to breaking under pressure / high temperature*
- *Liquids*
- *Biomedical waste*
- *Textiles (including towels, gauze, etc.)*
- *Plastics that may break down or produce residue when exposed to steam / high temperatures.*

Examples

Polyethylene	*Styrene*	*Cellulosics*	*ABS*
PVC	*Textiles*	*Acrylic (Plexiglass™)*	
PPO (Noryl™)	*Latex*	*Neoprene*	

Flash Sterilization
The M3 is capable of flash sterilization - sterilizing unwrapped instruments for immediate use. Please consider the following when choosing whether or not to flash sterilize your instruments:

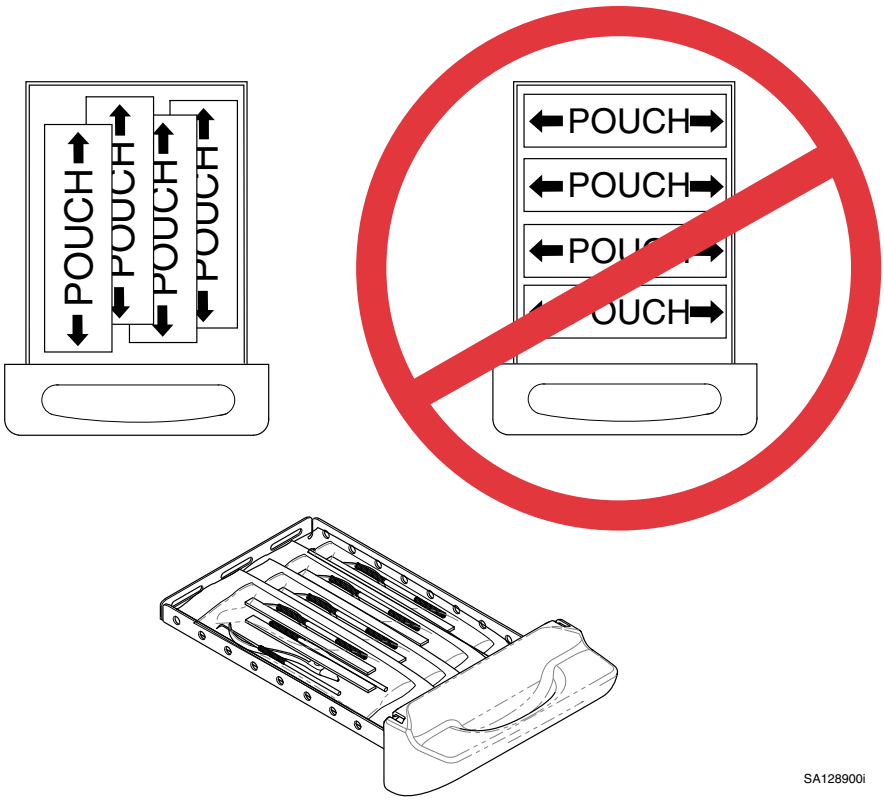
- The sterility of unwrapped instruments is compromised upon exposure to a non-sterile environment. Follow CDC guidelines for using unwrapped, sterilized instruments.
- Due to the sensitive nature of some types of surgery (including, but not limited to ophthalmological), instruments used in such procedures must be wrapped or pouched in order to reduce their exposure to sterilization process residues. The water reservoir should also be drained and refilled with fresh distilled water on a daily basis when processing instruments for these procedures on a routine basis.

Loading the Tray - continued

Pouching and Wrapping Items

The M3 is capable of sterilizing pouched or wrapped items.

- When pouching or wrapping items, use only sterilizer pouches and wraps that have been cleared by the FDA and labeled for use with the nontraditional steam sterilization cycle parameters, e.g. temperature and exposure time, of the M3 sterilizer. Follow the manufacturer's instructions for use.
- When using Hu-Friedy cassettes in the M3 follow the manufacturer's instructions for use.
- Pouched items to be sterilized should be placed lengthwise with plastic side of pouch facing up in the M3 UltraFast® tray.
  The pouches may overlap slightly, but items must not be layered. Refer to diagram below.



CAUTION

Failure to comply with these guideline may adversely affect sterilization and/or drying.

Loading the Tray - continued

Load Size

The M3 UltraFast® can accommodate loads weighing up to **2.4 lbs (1.1 kg).**
[Note: This is the weight of the contents in the tray (ex. instruments, cassettes, pouches, etc.). The weight of the tray itself has already been accounted for].

Use the table below as a general guideline for weights of commonly used items.
Consult manufacturer's specifications for the exact weight of any particular instrument.

Item Description	Weight*	
	lbs.	kg
Scissors	0.066	0.030
Dental Scalers	0.044	0.020
Forceps	0.033	0.015
Dental Handpiece	0.121	0.055
Suction Cannula	0.022	0.010
Plastic Mouth Mirror	0.018	0.008
Impression Tray	0.033	0.015
Plastic X-Ray Positioning Ring	0.044	0.020
Hu-Friedy Signa-Stat Cassette	1.500	0.680

*(*actual weights may vary)*

Packing the Tray

EQUIPMENT ALERT
Do not use towels or packaging which contains chlorine bleach residue. Chamber and/or tray rusting or discoloration may occur. The life of the sterilizer may be shortened significantly.

CAUTION
Clean and dry instruments thoroughly before placing them into tray. Improper cleaning may result in non-sterile instruments or damage to the unit. Follow instrument manufacturer's guidelines and CDC recommendations for handling and cleaning instruments prior to sterilization.

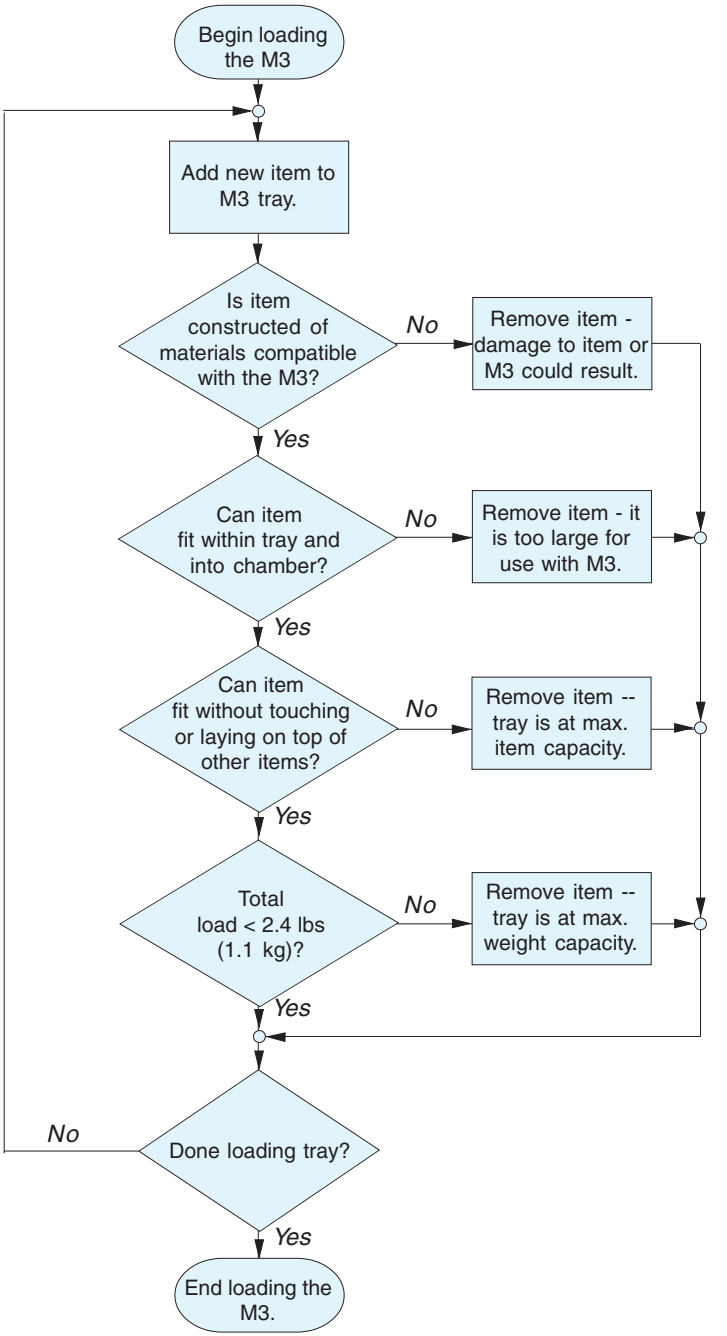
In addition to total load weight outlined above, all items must be processed in accordance with Centers for Disease Control and Prevention (CDC), 'Guidelines for Infection Control in Dental Healthcare Settings' - 2003, MMWR 2003; 52 (no. RR-17), which states:

"Items to be sterilized should be arranged to permit free circulation of the sterilizing agent (e.g., steam, chemical vapor, or dry heat); manufacturer's instructions for loading the sterilizer should be followed."

- All items must fit in M3 UltraFast® tray.
- Loaded tray must slide into chamber opening without scraping.
- Items must not touch one another.
- Pouched items should be loosely packed.
- Pouches may overlap slightly, but items must not be layered.

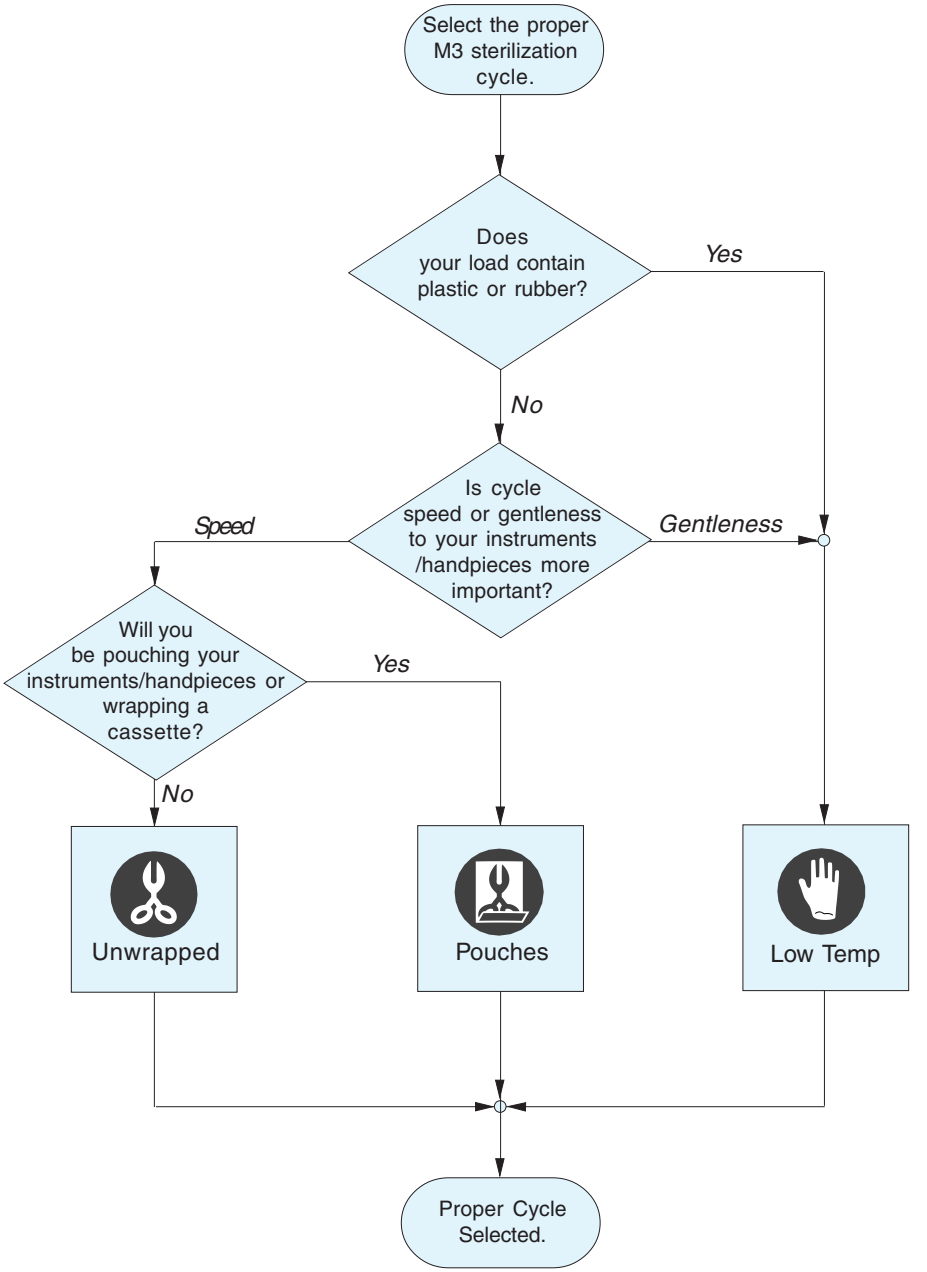
CAUTION
Failure to comply with these guidelines may adversely affect sterilization and/or drying.

Loading the Tray *-continued*



Cycle Selection

(The parameters for each cycle are outlined on the following page.)



Cycle Selection - continued

Cycle Parameters
*(Before sterilizing any item in the M3, refer to **Loading the Tray** in this section.)*

CYCLE	STERILIZATION PARAMETERS	DRY TIME	ITEMS TO BE STERILIZED
 **Unwrapped**	Temperature: 270°F (132°C) Pressure: 27.1 psi (186 kPa) 3:30 Minutes	Time: 25 Minutes	• Dental instruments / handpieces loose on a tray. • Items manufacturers recommend for exposure at 270°F (132°C), loose on tray.
 **Pouches**	Temperature: 270°F (132°C) Pressure: 27.1 psi (186 kPa) Time: 5:30 Minutes	Time: 30 Minutes	• Dental instruments / handpieces in pouches, wrapped, or in a wrapped cassette. • Items manufacturers recommend for exposure at 270°F (132°C), in pouches, wrapped, or in a wrapped cassette.
 **Low Temp**	Temperature: 250°F (121°C) Pressure: 15.0 psi (104 kPa) Time: 20:00 Minutes	Time: 50 Minutes	• Rubber or plastic dental devices, dental instruments / handpieces loose on a tray, in pouches, wrapped, or in a wrapped or unwrapped cassette. • Items manufacturers recommend for exposure at 250°F (121°C), loose on tray, in pouches, wrapped, or in a wrapped or unwrapped cassette.

Post-Sterilization Processing

After sterilization is complete, all items must be handled in accordance with accepted and documented standards, such as the Centers for Disease Control and Prevention (CDC) document, 'Guidelines for Infection Control in Dental Healthcare Settings' - 2003, MMWR 2003; 52 (no. RR-17), as well as any local requirements that may apply.

Qualified personnel responsible for infection control should prepare a protocol for handling sterilized items. This protocol should be followed by all personnel responsible for handling sterilized items, and should include the following basics:

- Unwrapped sterilization is not recommended for critical or implantable items.
- Unwrapped items should be transported immediately and aseptically from sterilizer to point of use.
- Allow items to dry before handling or storage.
- Wrapped items may be stored before use.
- The storage area should be a closed or covered space, away from environmental contaminates or wetness.

'Additional Heat' Cycle

The Additional Heat Cycle activates the dry heaters for ten minutes.
This cycle can be used to pre-heat the chamber at the beginning of the workday, or for extended drying time at the end of a cycle.

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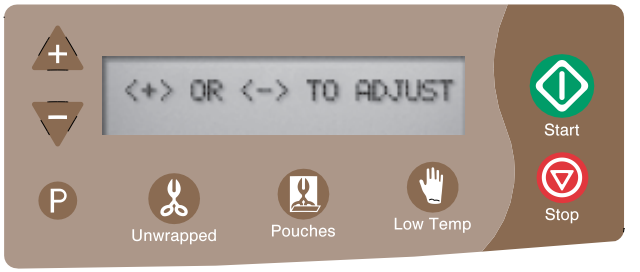
To pre-heat chamber prior to running a cycle...
*A. Press <**Start**> button when 'SELECT CYCLE' appears on display.*
B. During the ten minute pre-heat mode, 'ADDITIONAL HEAT' will flash on the display.
*C. When 'ADDITIONAL HEAT' stops flashing, press desired cycle button, then press <**Start**>.*

For extended drying time at the end of a cycle...
*A. Press <**Start**> button when 'SELECT CYCLE' appears on display.*
B. During the ten minute drying mode, 'ADDITIONAL HEAT' will flash on the display.

Adjusting the Drying Time

The M3 allows the operator to adjust the drying time from 20 - 60 minutes using 1 minute increments for the three pre-programmed cycles.



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To adjust the drying time for a pre-programmed cycle...

*A. After pressing desired cycle button, press <**P**> button.*
[Display will show current setting. (ex. DRY TIME: 30 MINUTES)]
*B. Press the <**+**> / <**-**> buttons to increase / decrease the drying time.*
*C. Press the <**P**> button to save your changes.*
*(Pressing the <**Stop**> button cancels the changes & returns to last saved setting.*

Accessories

Accessories		
Description	**Part Number**	**Intended Use**
Printer	9A401001	Prints sterilizer cycle information and data.
Door Tray	9A402001	Used to stage cycles.
Top Cover Protector	9A404001	Used to protect painted top cover from damage.

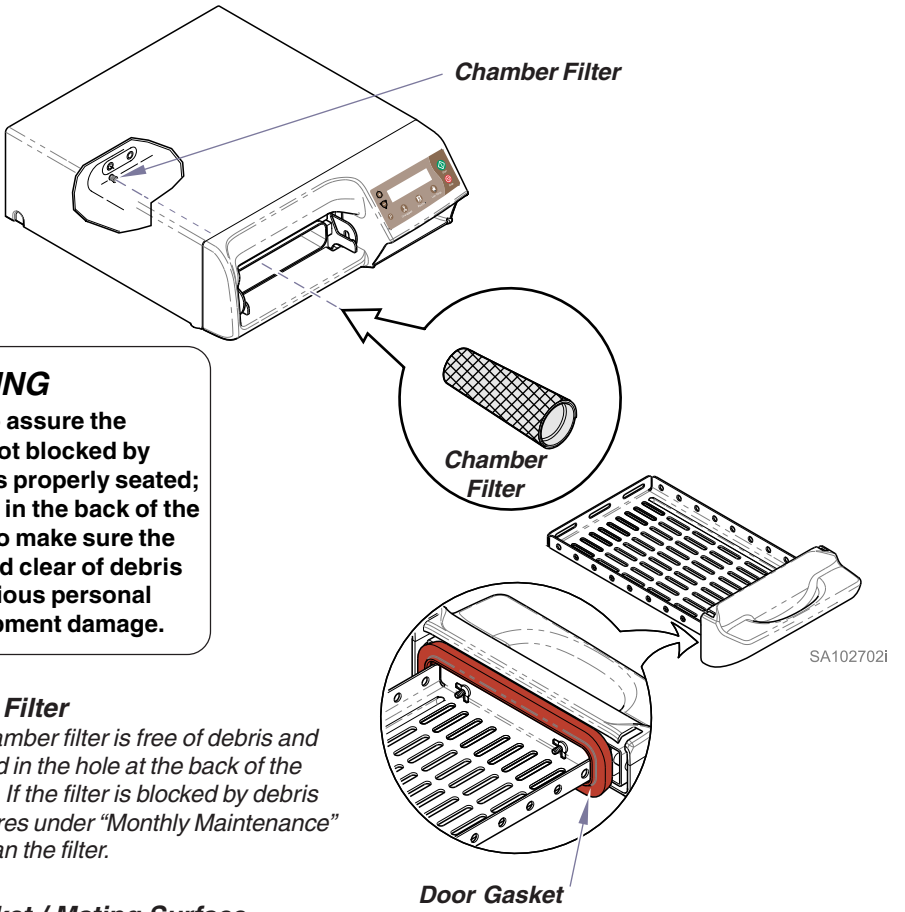
Maintenance

Maintenance Messages

To assure correct operation and maximum sterilizer life, the M3 provides the operator with reminders when it's time to perform operator maintenance. After the M3 is powered ON for 7, 14, and 21 days, a message "Perform Periodic Maintenance" will be displayed. After 28 days, a "Perform Monthly Maintenance" message will be displayed. Refer to the appropriate maintenance instructions in this manual. The maintenance reminders are removed from the display when a cycle is started. If power is turned OFF, the timer will reset, initiating a new cycle of messages.

Daily Care

- ***Clean External Surfaces / Tray & Chamber***
  - *A. Wash unit according to your facility's procedure for clinical contact surfaces noting the following:*
    (Use only quaternary disinfectants to disinfect unit. Staining, pitting, discoloration, or softening could occur if phenolic, iodophor, or glutaraldehyde-based disinfectant is used on plastic surfaces of the unit. Also, use of alcohol or aerosol spray cleaner / disinfectant containing substantial amounts of alcohol in the formula can damage the faceplate.)
  - *B. Wring excess solution from cloth.*
  - *C. Using soft cloth, wipe all external surfaces.*
  - *D. Do not rinse or dry external surfaces.*
    Allow germicidal solution to air dry.



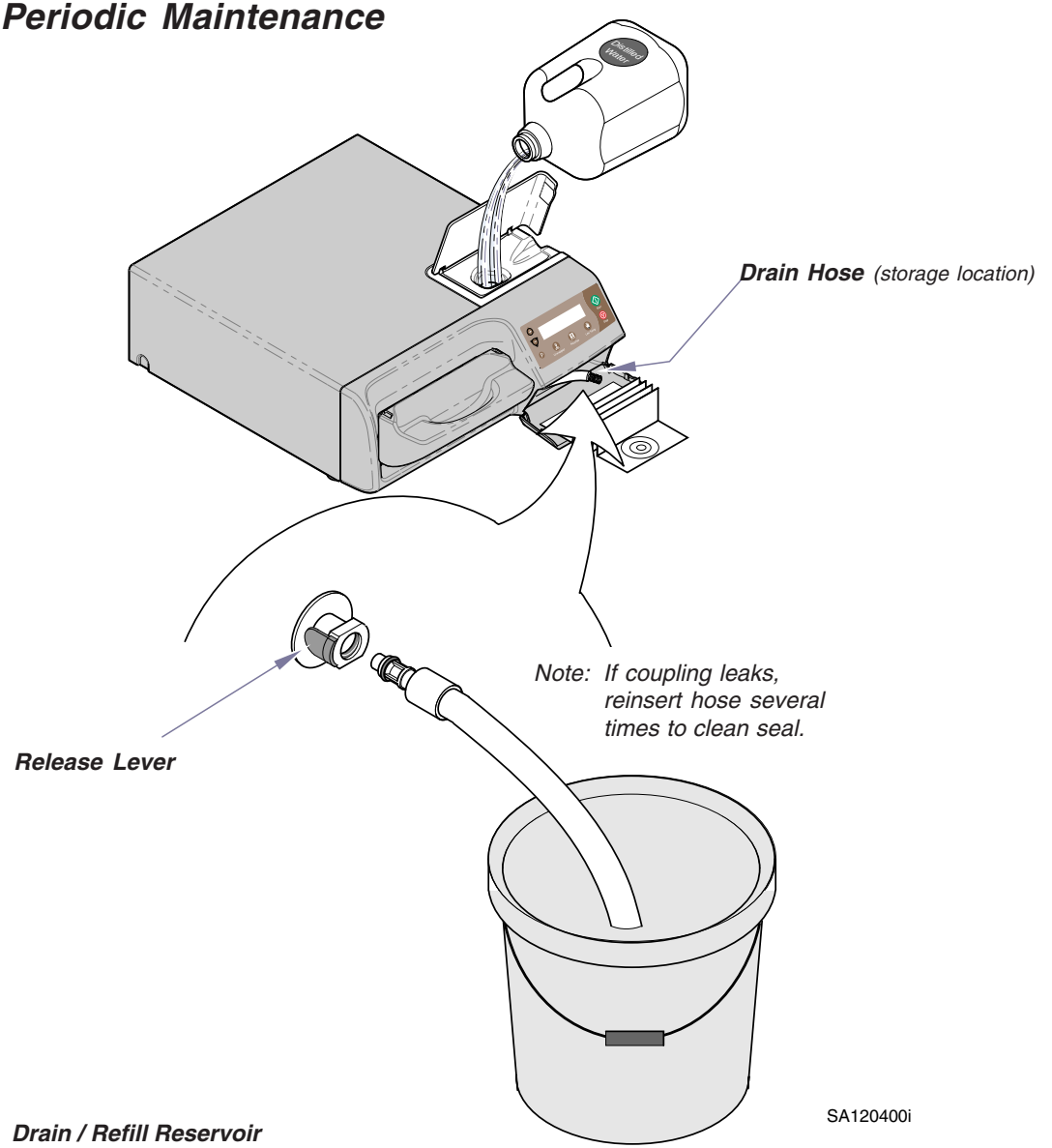
WARNING

Check to assure the chamber filter is not blocked by debris and that it is properly seated; in the bottom hole in the back of the chamber. Failure to make sure the filter is in place and clear of debris could result in serious personal injury and or equipment damage.

- ***Check Chamber Filter***
  Check that the chamber filter is free of debris and properly positioned in the hole at the back of the sterilizer chamber. If the filter is blocked by debris follow the procedures under "Monthly Maintenance" to remove and clean the filter.

- ***Clean Door Gasket / Mating Surface***
  - *A. Wash with a damp cloth.*
  - *B. Inspect gasket for damage.*
  - *C. Replace gasket if necessary.*

Periodic Maintenance

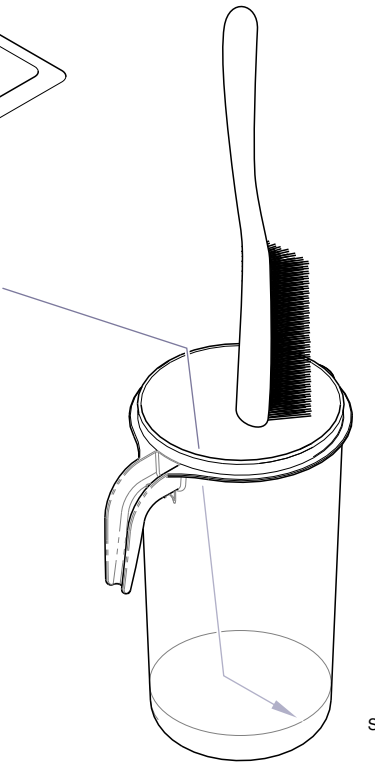


- ***Drain / Refill Reservoir***
  - *A. Remove drain hose from storage location.*
  - *B. Place open-end of drain hose into container or sink.*
  - *C. Connect adapter-end of drain hose to coupling as shown.*
  - *D. Once water has drained, press release lever and remove hose.*
  - *E. Return drain hose to storage location.*
  - *F. Refill reservoir with distilled water.*

Periodic Maintenance - *continued*

- ***Empty / Clean External Condensing Tank***
  - *A. Empty water from tank. (Do not reuse water!)*
  - *B. Clean tank with diluted bleach solution (1/4 cup bleach : 1 gallon water) and a brush.*
  - *C. Rinse tank thoroughly.*
  - *D. Refill tank to minimum water level indicator line.*

CAUTION
*Water may be **HOT**!*
Allow water to cool before emptying tank.



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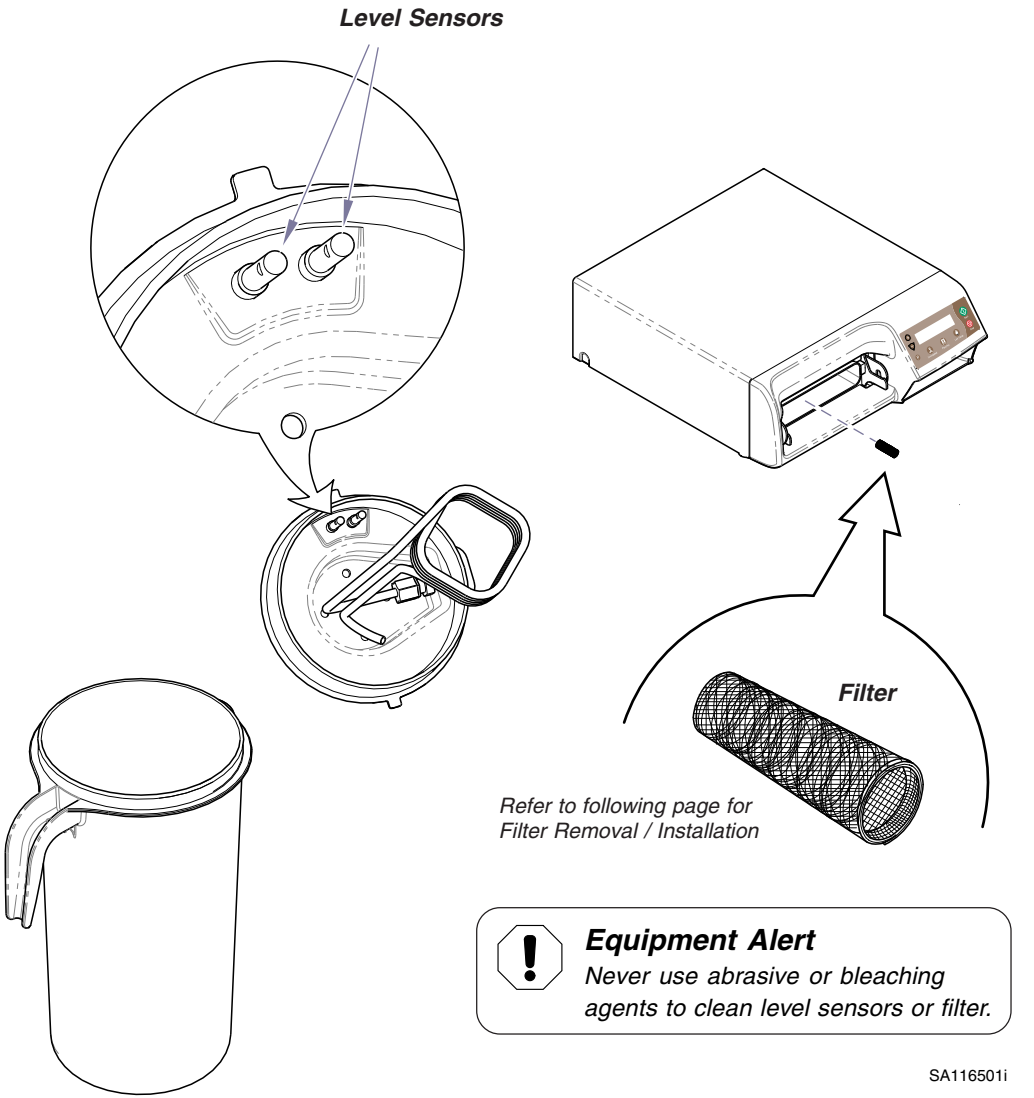
Monthly Maintenance

- ***Remove & Clean Filter***
  Wash with mild soap solution to remove debris. Rinse with distilled water. (Use a stiff brush to scrub, or place in ultrasonic cleaner if necessary.)

- ***Clean Condensing Tank Level Sensors***
  Clean two sensors with mild soap solution, then wipe dry.



Equipment Alert
Never use abrasive or bleaching agents to clean level sensors or filter.

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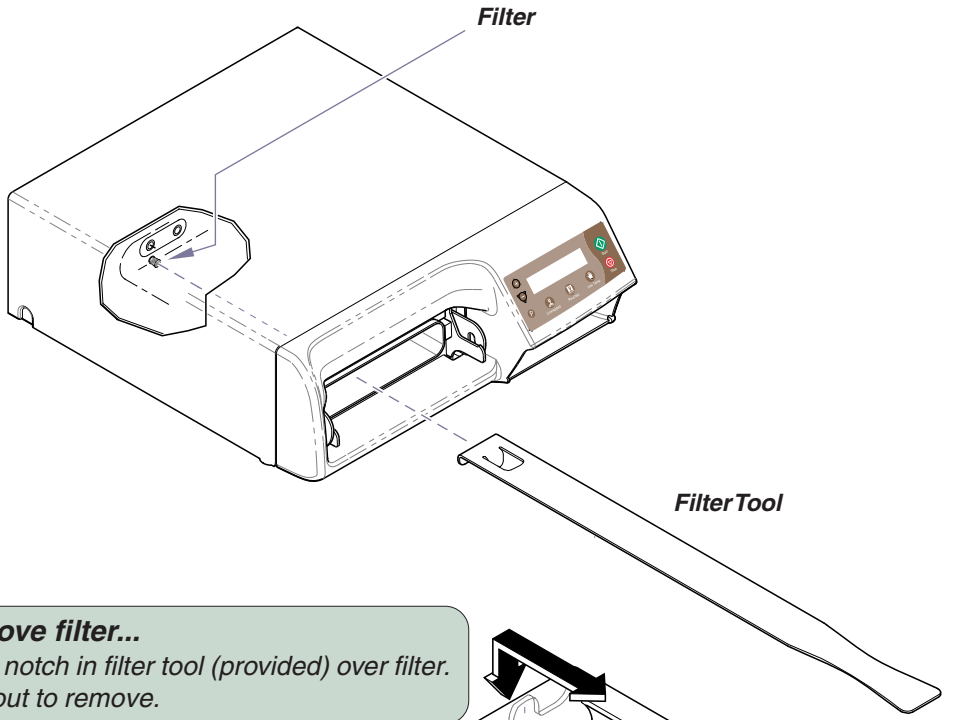
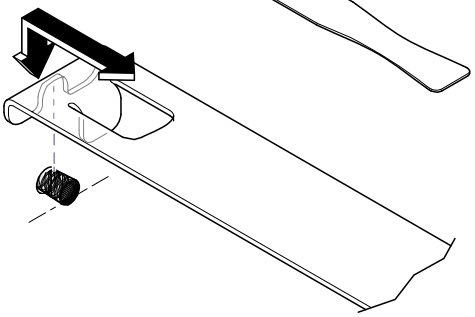
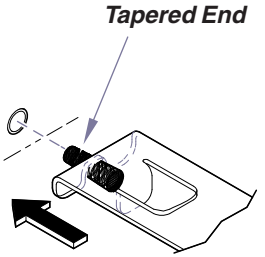
Monthly Maintenance *- continued*



To remove filter...

A. Slide notch in filter tool (provided) over filter.
B. Pull out to remove.

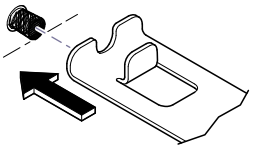




To install filter...

A. Position filter in notch of tool as shown.
B. Align filter with hole in back of chamber, and press in gently.*
C. Flip tool over, then gently press filter in to secure.

**Tip: Slide tool along bottom of chamber to align filter with hole.*



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Extended Use Maintenance

The M3 is designed and tested to provide exceptional reliability throughout its service life. However, like all electro-mechanical devices it is subject to wear and degradation with use.

To ensure the integrity, performance, and safety of all major components it is the responsibility of the user to have the sterilizer performance / operation verified by a Midmark Authorized Service Provider at least every 10 years or 10,000 cycles, whichever comes first. After 10 years or 10,000 cycles of use an annual inspection by a Midmark Authorized Service Provider is recommended.

Calling for Service

Note
Please mark down any displayed Code(s) and be sure to relay this information to the service technician.

Contact your **Midmark Authorized Dealer**, or log onto www.midmark.com
Model and serial number information will be required when calling for service.

To contact Midmark directly:

1-800-MIDMARK (1-800-643-6275) or 937-526-3662
8 am to 5 pm EST (Monday thru Friday)
[excluding standard U.S. holidays]

Troubleshooting

Error Codes

If a malfunction is detected during a cycle, a numeric error code will appear on the display panel. Use the chart below to diagnose and correct the most common, maintenance-related error codes. If you encounter an error code not identified below, follow the instructions on the display panel. If error code persists, contact your authorized service provider.

Example:

Error Code	Probable Cause	Corrective Action
C010	Sterilizer lost power during cycle.	Press <STOP> button, then restart cycle.
C100-series (all) (C101, C102, etc.)	<STOP> button was pressed during the cycle.	Press <STOP> button, then restart cycle.
C231, C232	Not enough water in reservoir to complete the cycle	Fill reservoir with distilled water.
C441, C442	External condensing tank is full.	Empty external condensing tank.
C533, C633	Water pump needs primed.	Put the sterilizer in the User Diagnostic Mode and prime the pump. (see page 25)

Troubleshooting - *continued*

User Diagnostic Mode

The User Diagnostic Mode is used:

- To set “English” or “Metric” units on the display panel,
- To retrieve the last five (5) error codes stored in the unit memory.
- To prime the water pump if needed.

To activate User Diagnostic Mode...

A. Turn Power Switch OFF (O).
*B. Press and hold the <**START**> button.*
C. Turn Power Switch ON (I).
*D. Press the <**START**> button when the display shows “USER DIAGNOSTIC”.*

To change Display Units...

A. Put the unit in User Diagnostic Mode.
*B. Press the <**P**> button to select units.*
*C. Press the <**+**> button to change the temperature and pressure display from English-to-Metric or Metric-to-English units. (Factory default setting is English).*
*D. Press the <**START**> button to continue.*
E. Turn the power switch OFF (O) to exit User Diagnostic Mode.

To retrieve the five (5) most recent error codes...

A. Put the unit in User Diagnostic Mode.
*B. Press the <**STOP**> button to recall errors.*
C. The last five (5) error codes will be displayed.
D. Press the <START> button to return to the User Diagnostic Mode display.
E. Turn the power switch OFF (O) to exit User Diagnostic Mode.

To prime the sterilizer pump...

A. Put the unit in User Diagnostic Mode.
*B. Press the <**START**> button to start the pump priming progress. The unit will automatically cycle through a preprogrammmed priming cycle...*
- *Closing the sterilizer door.*
- *Heating the boiler.*
- *Cycling the pump ON and OFF until the pump is primed.*

When finished the 2nd line of the display will show “PRIMING COMPLETE”.
C. Press the <START> button to return to the User Diagnostic Menu.
D. Turn the power switch OFF (O) to exit User Diagnostic Mode.

Specifications

Fuse Ratings:

115 VAC Unit

F1	15 Amp, 250 V, Fast Acting, 1/4" x 1 1/4"
F2	0.25 Amp, 250 V, Slo-blo, 1/4" x 1 1/4"

230 VAC Unit

F1	8 Amp, 250 V, Fast Acting, 5 x 20 mm
F2	0.125 Amp, 250 V, Slo-blo, 5 x 20 mm

Certifications:

ASME Boiler & Pressure Vessel Code, Section VIII, Division 1
Canadian Registration Number Available
UL 61010-1, 2nd Edition
IEC 61010-2-040,1st Edition
CAN/CSA-C22.2 No. 61010-1 2nd Edition
FCC Part 15, Sub-part B

Physical Dimensions:

Overall Length:	21 in. (53.3 cm)
Overall Width:	17.8 in. (45.2 cm)
Overall Height:	6.9 in. (17.5 cm)
Shipping Carton Length:	25 in. (63.5 cm)
Shipping Carton Width:	22 in. (55.9 cm)
Shipping Carton Height:	16.6 in. (42.2 cm)
Counter Area:	24 in. (61 cm) deep x 22 in. (55.9 cm) wide
Chamber Volume:	0.49 gal (1.8 liter)

Weight:

Empty Reservoir:	71 lbs. (32.2 kg)
Full Reservoir:	80 lbs (36.3 kg)
With Shipping Carton:	80 lbs (36.3 kg)

Water Reservoir Capacity ..... 1.20 gal (4.5 liter)

Pressure Relief Valve Setting ..... 40 PSI (275.8 kPa)

Chamber Pressure:

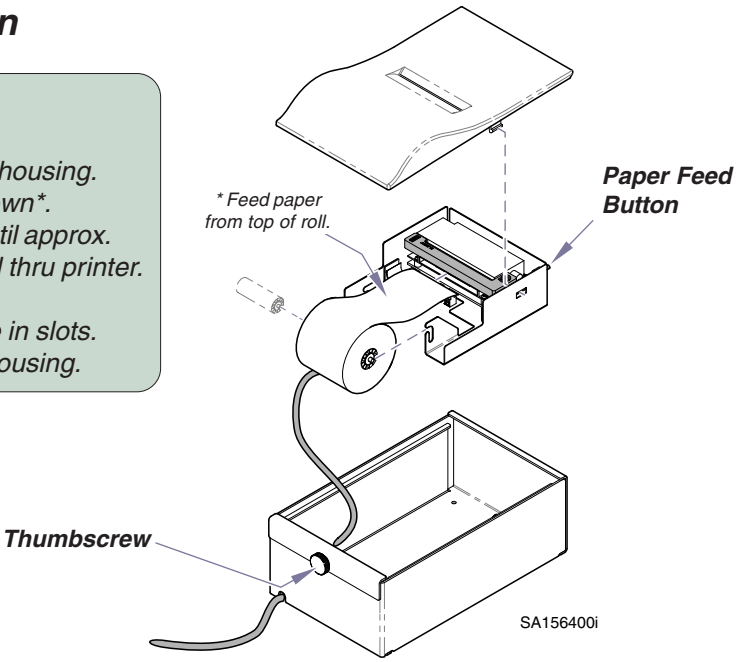
@ 270°F (132°C) ..... 27.1 psi. (186.2 kPa)

Printer (optional)

Paper Roll Installation

To install paper roll...

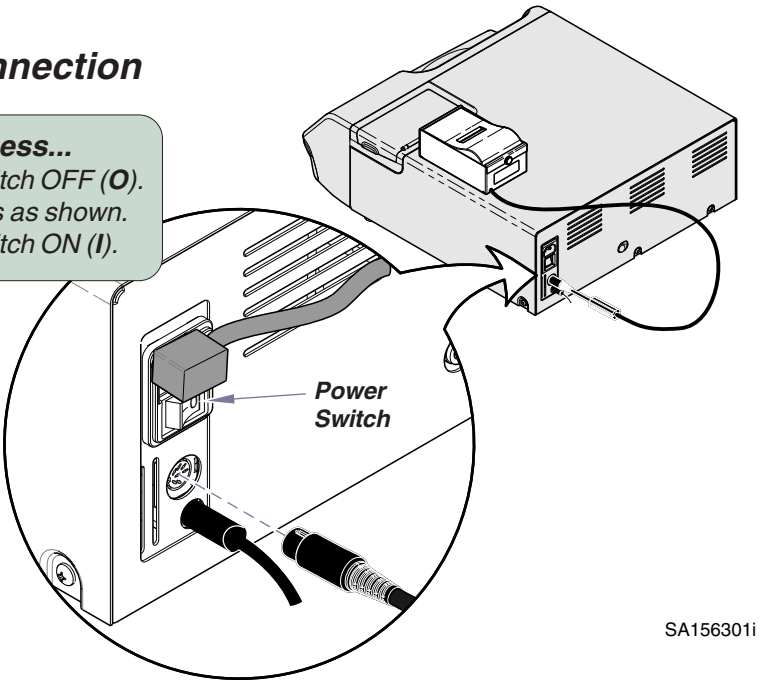
A. Loosen thumbscrew, then separate lid / printer from housing.
B. Slide paper into slot as shown.*
C. Press paper feed button until approx. 2 in. (5 cm) of paper is fed thru printer.
D. Pull paper thru slot in lid.
E. Position paper roll / spindle in slots.
F. Reassemble lid / printer / housing.



Printer Harness Connection

To connect printer harness...

*A. Turn sterilizer power switch OFF (**O**).*
B. Connect printer harness as shown.
*C. Turn sterilizer power switch ON (**I**).*



Printer Readout

```
BEGIN

UNWRAPPED
270 deg F 3.5 MINUTES

MM - DD - YYYY
__ - __ - ____
TOTAL CYCLES 140

HEATING

MM:SS  degF   PSI
0:00  151.5   0.1
0:30  193.1   0.2
1:00  218.1   3.8
1:30  243.2  11.9
2:00  244.6  13.5
2:30  268.5  27.8

STERILIZING

MM:SS  degF   PSI
0:00  271.0  28.8
0:30  274.8  31.6
1:00  272.9  29.2
1:30  275.1  25.8
2:00  273.7  30.8
2:30  273.8  30.0
3:00  273.5  29.3
3:30  275.2  25.8

MIN TEMP  271.0 degF
MAX TEMP  275.7 degF
MIN PRESS  23.2 PSI
MAX PRESS  32.1 PSI

VENTING CHAMBER

DRYING

0:00

TOTAL PROCESS TIME
9:50

COMPLETE
```

Selected Cycle

Set Temperature & Time

Date

Total # of cycles run on unit

During Heat-Up phase, the printer records chamber temperature & pressure in 30-second increments.

During Sterilization phase, the printer records chamber temperature & pressure in 30-second increments.

Summary of Sterilization phase

Indicates Venting phase initiated

Indicates Drying phase initiated (Printer records drying time in 5 minute increments).

If printer readout becomes light...

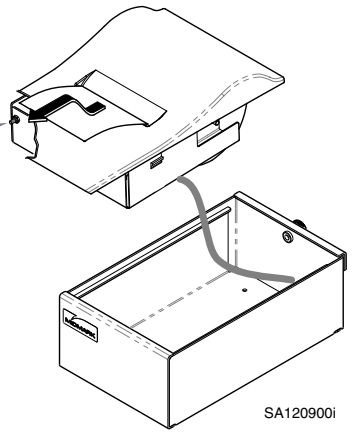
A. Separate lid / printer from housing.

B. Press Paper Feed button for three seconds.

(This advances the ribbon inside the cartridge).

C. Repeat step B as necessary.*

**Note: If pressing the Paper Feed button fails to correct the problem, replace the printer cartridge.*



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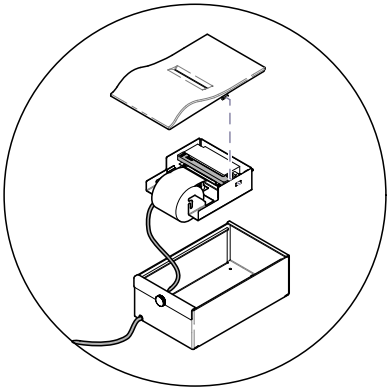
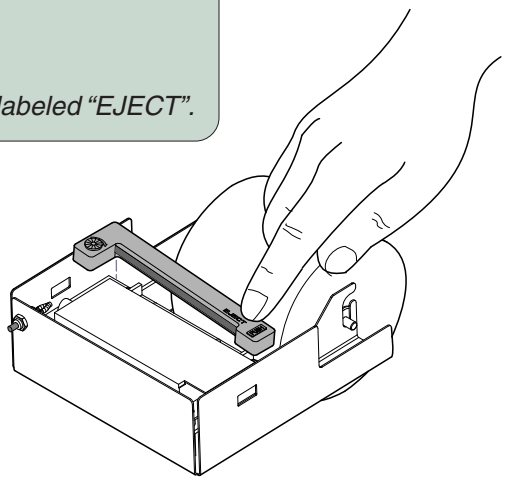
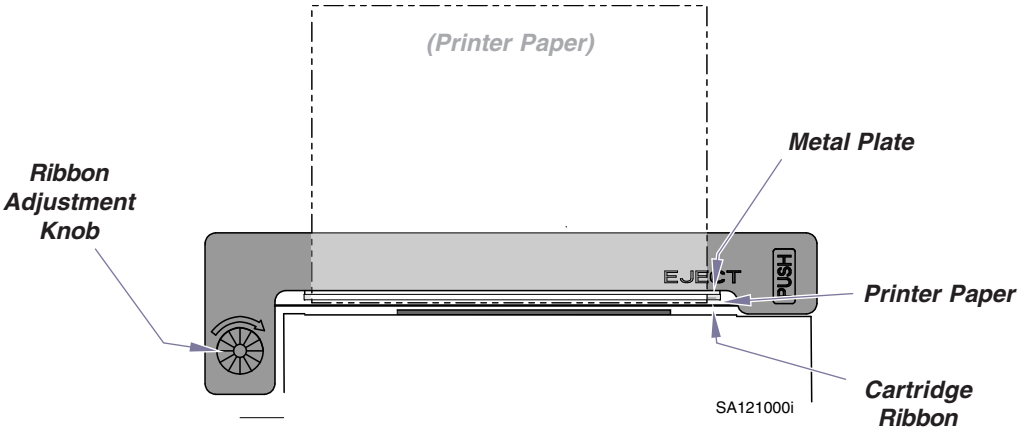
Printer Cartridge Replacement

To remove old printer cartridge...

A. Turn sterilizer power switch OFF (O).
B. Separate lid from printer.
C. Press down on side of printer cartridge labeled "EJECT".







To install new printer cartridge...

A. Install new cartridge as shown (it will "snap" into place).*
**Note: The printer paper must be between the cartridge ribbon & the metal plate.*
B. Turn Adjustment Knob clockwise until ribbon is tight.

Warranty

Limited Warranty

SCOPE OF WARRANTY

Midmark Corporation (“Midmark”) warrants to the original purchaser its new Alternate Care products and components (except for components not warranted under “Exclusions”) manufactured by Midmark to be free from defects in material and workmanship under normal use and service. Midmark’s obligation under this warranty is limited to the repair or replacement, at Midmark’s option, of the parts or the products the defects of which are reported to Midmark within the applicable warranty period and which, upon examination by Midmark, prove to be defective.

APPLICABLE WARRANTY PERIOD

The applicable warranty period, measured from the date of delivery to the original user, shall be one (1) year for all warranted products and components.

EXCLUSIONS

This warranty does not cover and Midmark shall not be liable for the following: (1) repairs and replacements because of misuse, abuse, negligence, alteration, accident, freight damage, or tampering; (2) products which are not installed, used, and properly cleaned as required in the Midmark “Installation” and or “Installation / Operation Manual for this applicable product. (3) products considered to be of a consumable nature; (4) accessories or parts not manufactured by Midmark; (5) charges by anyone for adjustments, repairs, replacement parts, installation, or other work performed upon or in connection with such products which is not expressly authorized in writing in advance by Midmark.

EXCLUSIVE REMEDY

Midmark’s only obligation under this warranty is the repair or replacement of defective parts. Midmark shall not be liable for any direct, special, indirect, incidental, exemplary, or consequential damages or delay, including, but not limited to, damages for loss of profits or loss of use.

NO AUTHORIZATION

No person or firm is authorized to create for Midmark any other obligation or liability in connection with the products.

THIS WARRANTY IS MIDMARK’S ONLY WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. MIDMARK MAKES NO IMPLIED WARRANTIES OF ANY KIND INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS.

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Notes:

Notes:

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