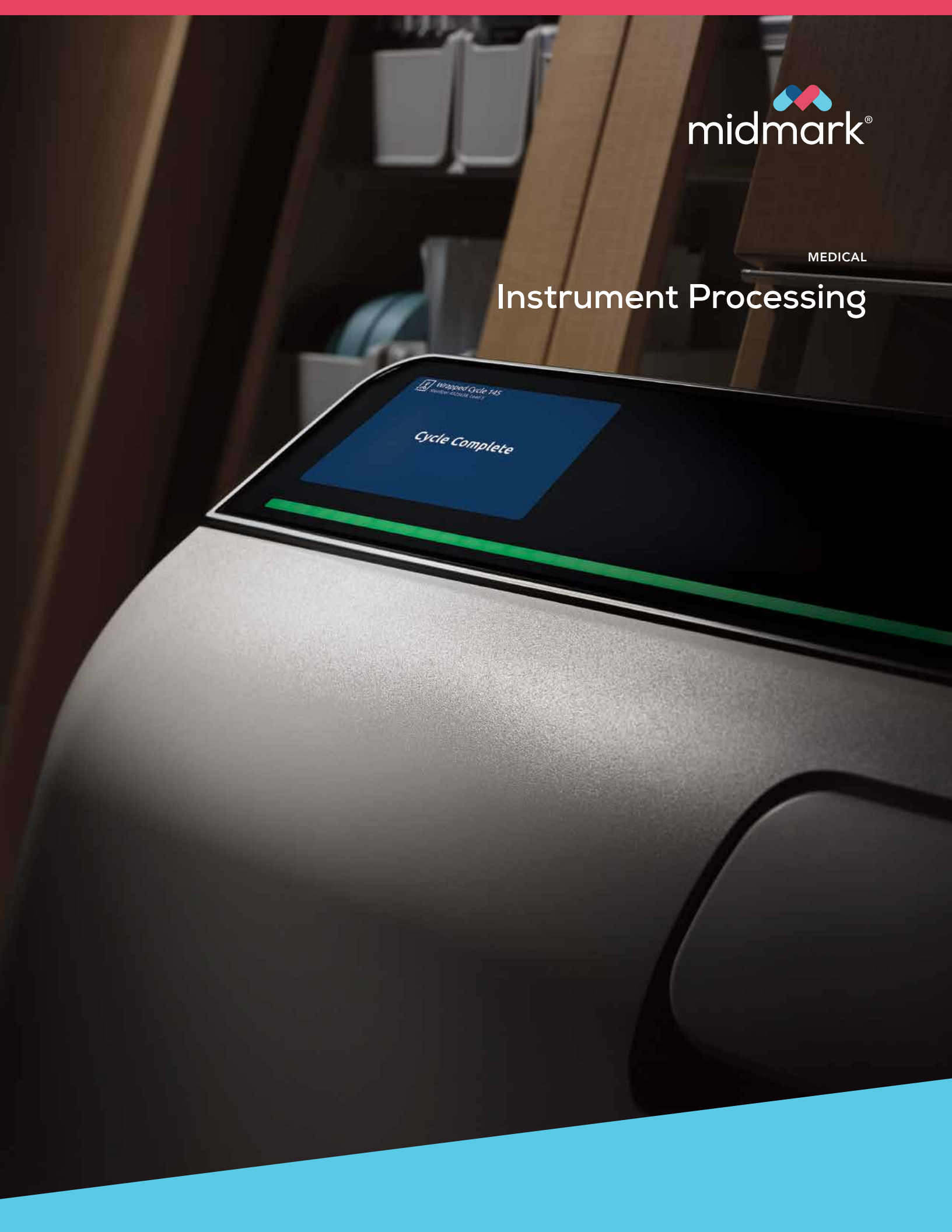
midmark®

MEDICAL

Instrument Processing



Protect patients and staff

The safety of every person who visits your facility is at the heart of your infection prevention program, but balancing compliance with operational challenges can be difficult. Instrument processing is a time and labor-intensive task—and it starts before you ever touch an instrument.

Balancing patient care with instrument processing challenges

The challenges of nursing staff shortages, budgets and patient safety are all too real. Instrument processing is highly regulated and very time and labor intensive. This may make it challenging for staff to choose between prioritizing patient experience or properly sterilizing instruments.

Burnout and the stress of increasing responsibilities are major causes of employee turnover and under-performance in sterile processing departments.[1] As people leave, resources become strained and additional training may be required. This can cost thousands of dollars and months of field experience to become proficient. Research has found that inadequate sterilization-process training can contribute to **twice as many quality errors.**[2]

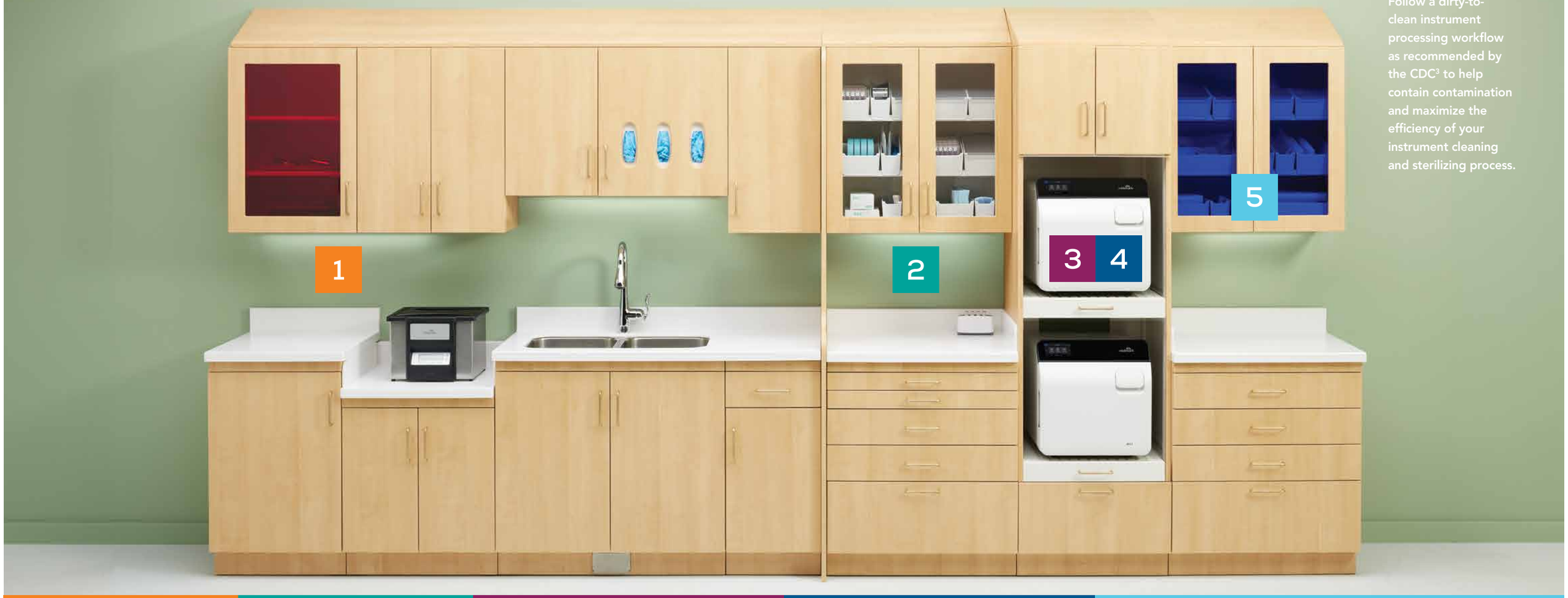
A better understanding of facility, equipment and workflow design can play a central role in easing this burden.

Instrument reprocessing professionals are spending more time than ever reprocessing instrumentation.[1]

[1,2] See inside back cover for details and sources

Start with Workflow

5-STEP INSTRUMENT PROCESSING WORKFLOW



Follow a dirty-to-clean instrument processing workflow as recommended by the CDC[3] to help contain contamination and maximize the efficiency of your instrument cleaning and sterilizing process.

STEP 1
Receiving + Cleaning

Reusable instruments, supplies and equipment should be received, cleaned and disinfected in one section of the processing environment.

STEP 2
Preparation + Packaging

Cleaned, dried instruments and other supplies should be inspected for residual debris and damage, assembled into sets or trays, and wrapped or packaged for sterilization.

STEP 3
Sterilization

The sterilization area should include the sterilizer and related supplies with adequate space for loading and unloading the sterilizer. Follow the instructions for use (IFU) on cleaning and sterilizing for each instrument.

STEP 4
Monitoring/Sterility Assurance

Mechanical, chemical and biological monitoring should be used to ensure the efficacy of the sterilization process. Results of sterilization need to be recorded.

STEP 5
Storage

The storage area should be adequately sized, closed or covered, and located apart from contaminated instruments in an area protected from moisture. Supplies and instruments should not be stored under the sink.

[3] See inside back cover for details and sources

The Instrument Processing Center

A CRITICAL COMPONENT OF A 5-STEP INSTRUMENT PROCESSING WORKFLOW

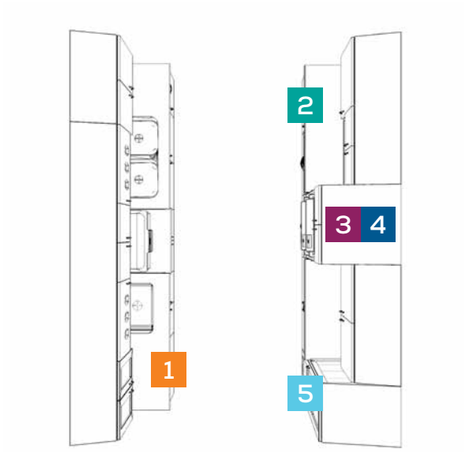
Regardless of the size or shape of your instrument processing area, it's important to choose a facility and equipment design that supports a standardized workflow. A workflow that can be consistently reproduced by staff can make it easier to manage the process and ensure adherence to clinical best practices and compliance guidelines.

For instance, FGI Guidelines published by the Facility Guidelines Institute (a keystone of healthcare planning, design and construction) outline sink and countertop recommendations for handwashing.[4] Consumer-grade cabinetry manufacturers and construction contractors have limited knowledge of healthcare and may not understand the various requirements. When Midmark design consultation experts work directly with project architects, contractors and interior designers, we can help ensure facility design and room configurations align with equipment, workflow, compliance and intended outcomes.

Design Your Space

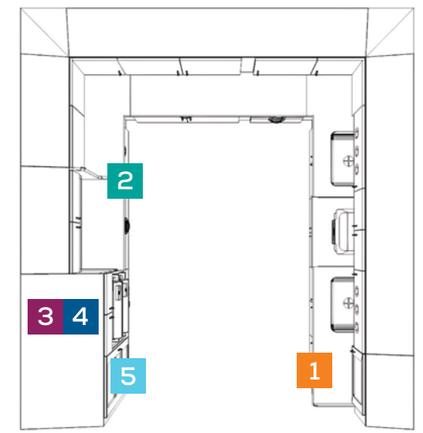
From receiving to storage, your instrument processing space needs to work for you. The following layout options are designed to follow a 5-step, standardized instrument processing workflow for better adherence to clinical best practices within the space you have available.

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
RECEIVING + CLEANING	PREPARATION + PACKAGING	STERILIZATION	MONITORING/STERILITY ASSURANCE	STORAGE



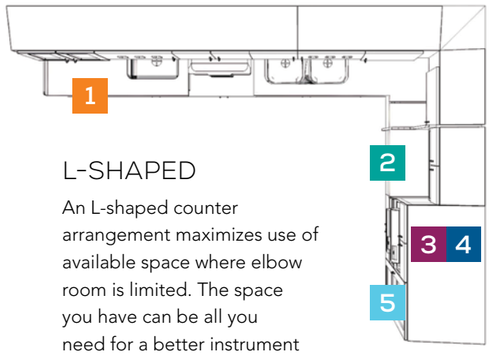
GALLEY

The galley layout consists of workspaces on two opposing walls with a single traffic lane between. This arrangement allows for easy access and efficient workflow, helping your staff keep the process moving using a linear flow while keeping everything within reach.



U-SHAPED

Multiple cleaners and sterilizers demand space—a U-shaped workspace design provides that and more. Ample surface areas allow more staff in the room to multitask and maintain a bustling workflow.



L-SHAPED

An L-shaped counter arrangement maximizes use of available space where elbow room is limited. The space you have can be all you need for a better instrument processing workflow.

STRAIGHT LINE

Perfectly suited to a 5-step instrument processing flow, a straight-line workspace design is the picture of efficiency. A straight-line workspace design can help maximize efficiency for effective infection prevention.

[4] See inside back cover for details and sources

DESIGN SUPPORT

Whether you are building a new facility or remodeling your current instrument processing area, the prospect can be overwhelming. Our in-house design experts are ready to help you every step of the way, including partnering with your preferred dealer and working with existing floorplans and designs.

The Midmark Live Design process provides a variety of benefits oftentimes solving issues customers may not even know they had. We can help you choose from a variety of designs, configurations and styles all specific to your instrument processing needs.

Synthesis® Color + Style Options

Synthesis Cabinetry offers different color and styling options to allow you to put your unique signature on a space, whether it is in one office or a multi-facility organization.

Scan to explore color and style options.

HANDLE STYLES

PANEL STYLES

CABINET FINISH

- Frost and Frost PVC Free
- Pebble Grey and Pebble Grey PVC Free
- Whisper
- Fawn
- Venus Silver (metallic)
- Flat Iron (metallic)
- Pearl Essence (metallic)
- Earthen Bronze (metallic)
- Dune
- Nest
- Flax
- Path
- Sediment
- Brazilwood
- Hewn
- Radiance
- Acorn
- Earth
- Timber
- Storm
- Henna

*EPA registration number 85353-2
**Available in Pebble Grey or Pebble Grey PVC Free only

Midmark® Medical-Grade Cabinetry vs. Consumer-Grade Cabinetry

Most generic or local cabinetry is not designed for the demanding clinical environment. Consumer-grade cabinetry can delaminate over time, develop unsealed corners susceptible to bacteria and moisture, and warp from the humidity inherent in a medical facility.

	CABINET FRAME	PANEL SUBSTRATES	BASE MATERIAL	FINISHES	TYPES OF ASSEMBLY	DRAWERS	DRAWER SLIDES	HANDLES
MIDMARK SYNTHESIS® CABINETRY **A steel foundation provides strength and durability.**	 • 18-gauge cold-rolled steel • Modular design	 • Medium-density fiberboard • 3/4" panels	 • Thermofoil over electrostatic, powder-coat painted steel (woodgrain and metallic colors) • Electrostatic, powder-coat painted steel (solid colors) • Integrated adjustable levelers	 • PVC thermofoil (woodgrain and metallic colors) • PVC thermofoil and electrostatic, powder-coat paint (solid colors)	 • Mechanical fasteners (screws, pop rivets) • Tog-L-Loc® sheet metal joining system *Mechanical fasteners and Tog-L-Loc provide reliable strength.*	 • Seamless polystyrene *Seamless polystyrene drawers with rounded corners contain spills and simplify cleaning.*	 • Full-extension ball bearing drawer system • Steel mounting foundation • Soft-close feature	 • Integrated and insert options • Brushed nickel options • Antimicrobial option *Synthesis® antimicrobial pull options support an aseptic environment.*
CONSUMER-GRADE CABINETRY* **Millwork options are not specifically designed to endure the clinical environment.**	 • 1/2" to 5/8" low-density particle board or plywood (typically) • Basic or limited design	 • Low-density particle board • Plywood	 • Basic plywood or particle board covered with laminate • Wood shims for leveling	 • High-pressure laminate – Not always properly applied – May use low-grade substrate material • Less than 2 mm edgebanding • Varnish, paint, or left unfinished	 • Staple fasteners (frequently) *The staple fasteners typically used in consumer-grade millwork are unreliable for medical-grade cabinetry.*	 • Insides often varnished, painted or unfinished *Seams and sharp inner corners can result in difficulty cleaning and a build-up of contaminants.*	 • Single, undermounted runner (monorail glide—typically used) • Slides common in kitchens (less durable)	 • C-style shape • Plastic or aluminum *Consumer-grade millwork does not have the antimicrobial options to support an aseptic medical environment.*

**Fabrication of local cabinets may vary. However, materials depicted are typical of local millwork cabinetry.*

Products + Solutions

QuickClean®
Ultrasonic Cleaners

Midmark®
Steam Sterilizers

Service + Support

QuickClean® Ultrasonic Cleaners

If an instrument is not clean, it will not become sterile. That's why it's so important to ensure that instruments are thoroughly cleaned prior to sterilization. QuickClean Ultrasonic Cleaners can eliminate hidden residues manual cleaning may miss, providing powerful, effective cleaning with consistent results. And QuickClean uses advanced technology to help create a safer, more efficient work environment by decreasing worker exposure to contaminants and sharps injuries while reducing the time and effort needed for cleaning.

Take the complexity out of cleaning instruments

QuickClean is designed to be easy to use right out of the box, so your staff can be up and running with minimal installation and training time. Advanced Frequency LEAP technology helps ensure instruments are cleaned thoroughly and consistently throughout the entire bath.

01 Choose the option that best fits your space and workflow needs. QuickClean comes in three tabletop sizes (1.2-, 3.3- and 6.6-gallon).

02 QuickClean is available in two recessed options (3.3- or 6.6-gallon).

03 Use glass beakers to clean very small items. Even though the items are inside the beaker, ultrasonic waves can still reach and clean them. Choose from a 2-beaker, 4-beaker or 6-beaker kit.

04 Restock your required cleaning solutions with Midmark General Purpose Cleaner, Tartar and Stain Remover, and Enzymatic Cleaner; each available in 32 oz bottles.

Midmark®
Steam Sterilizers

WHEN YOU INVEST IN MIDMARK STERILIZERS, YOU CAN BE CONFIDENT YOU ARE GETTING THE BEST–OUR STERILIZERS ARE THE MARKET LEADERS YEAR AFTER YEAR.

Midmark Steam Sterilizers are designed with intuitive instructions that can simplify compliance, cycle operation, and performing and recording device care. This can help to **reduce transcription and documentation errors which could account for 56% of sterilization errors.**[5] Automated mechanical monitoring and chemical indicator reporting can save time, helping simplify staff training and giving them confidence to process instruments.

01 Navigate cycle setup and other processes with a clear, fingerprint-resistant 5-inch touchscreen you can utilize while wearing gloves. Choose a style—light or dark mode.

02 Determine cycle status—cycle in progress, cycle complete and cycle error—from a distance with a progressing color-coded LED light bar, large cycle-countdown clock and audible cues.

01 Midmark M11® Steam Sterilizer
The 11" x 18" chamber makes this one of the largest of any standard countertop sterilizer on the market.

02 Midmark M9® Steam Sterilizer
Pack all the reliable sterilizing power you need into a compact unit perfect for areas with limited space.

PROTECT YOUR INVESTMENT
Register your warranty today to receive prompt support when you need it and opt in to receive future notifications for available software updates.

FEATURES

Streamlined Compliance Recordkeeping: Stay audit-ready with device reminders and notifications, user authentication, unlimited storage of routine care events for the life of the sterilizer, and automated cycle recordkeeping.

Durability: Midmark sterilizers have been designed for durability, including an increased device life of 25,000 cycles thanks to a completely reengineered chamber. This can reduce the frequency of required maintenance by users and certified technicians by more than half.

[5] See inside back cover for details and sources

STANDARD
CYCLE PARAMETERS

Cycle Type	Cycle Parameters			Drying Time[3]	Items to Be Sterilized (Always follow the instrument manufacturer's recommendations for sterilization.)	M9 Maximum Capacity[5]	M11 Maximum Capacity[5]
	Temperature Minimum	Time	Pressure Reference[2]				
Wrapped	270°F (132°C)	4 min	27.1 psi (186 kPa)	30 min	• Pouched or wrapped items manufacturers recommend for exposure at 270°F (132°C) for 4 minutes. • Wrapped cassettes	8 lb (3,629 g) or 8 handpieces (2 per tray) with other instruments 8 lb (3,629 g) total	9 lb (4,082 g) or 8 handpieces (2 per tray) with other instruments 9 lb (4,082 g) total
Wrapped	275°F (135°C)	3 min	31 psi (214 kPa)	30 min	• Pouched or wrapped items manufacturers recommend for exposure at 275°F (135°C) for 3 minutes • Wrapped cassettes	8 lb (3,629 g) or 8 handpieces (2 per tray) with other instruments 8 lb (3,629 g) total	9 lb (4,082 g) or 8 handpieces (2 per tray) with other instruments 9 lb (4,082 g) total
Delicate	250°F (121°C)	30 min	15 psi (104 kPa)	30 min	• Textiles and surgical packs wrapped for sterilization[4] • Items, except liquids, manufacturers recommend for exposure at 250°F (121°C) for 30 minutes	8 lb (3,629 g) or 1.3 lb (590 g) textile load	9 lb (4,082 g) or 2 packs each at 1.3 lb (590 g) textile load
Unwrapped*	270°F (132°C)	3 min	27.1 psi (186 kPa)	30 min	• Instruments loose on a tray • Open glass or metal canisters • Tubing not used in surgical procedures (maximum length 40 in and minimum inside diameter 0.187 in) • Loose items manufacturers recommend for exposure at 270°F (132°C) for 3 minutes	8 lb (3,629 g)	9 lb (4,082 g)
5 Custom Cycles**	250°F (121°C) to 275°F (135°C)	3 min to 45 min	15 psi (104 kPa) to 31 psi (214 kPa)	0 min to 60 min	• Instruments with manufacturer instructions outside of Midmark Standard Cycle Parameters • Special applications requiring different programmed cycles	8 lb (3,629 g)	9 lb (4,082 g)

1. Standard cycle parameters are taken from the Midmark Steam Sterilizers Setup and User Guide (003-10534-99).
2. The pressures shown in this table are at sea level and are for reference only. These are the ideal pressure of saturated steam at the sterilization temperature. The pressures on the sterilizer display may be higher.
3. Dry time can be changed from 5 to 60 minutes. (IUSS dry time can be changed from 1 to 5 minutes.) Refer to Standard Cycle Operation in the User Guide.
4. Allow a minimum of 1/4 in (6.4 mm) space between each pack and from the chamber wall.
5. The default dry time may need increased due to variations in load configuration, wrapping materials and the environment to completely dry the chamber contents at these capacities.

*The sterility of unwrapped items is compromised on exposure to a non-sterile environment.
**CAUTION: These cycles are not FDA-cleared, and validation of the sterility of items processed using a custom cycle is the responsibility of the user. Sterilization temperature, drying time and venting procedure can be adjusted or changed to follow instrument manufacturers' instructions when outside of Midmark Standard Cycle Parameters. Refer to Custom Cycle Operation in the User Guide for how to create these cycles.

Note: Some features can be disabled in Settings, such as the ability to reduce dry time, run an IUSS cycle or run a Custom Cycle. 115 VAC models may be operated in a voltage range of 103-127 VAC. 230 VAC models may be operated in a voltage range of 207-253 VAC. Overall cycle time will vary based on conditions such as voltage, starting temperature and altitude. At the lower end of the voltage range, heat-up times will increase, and it may be necessary to run a Pre-Heat cycle prior to the sterilization cycle.

ACCESSORIES THAT HELP ADD
VERSATILITY + FUNCTION

Cool Hand Tool This tool connects to trays and cassettes to help reduce the risk of team injury while loading or unloading the sterilizer.

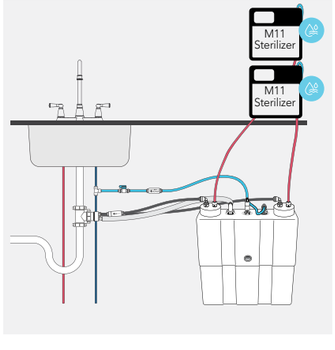
USB Kit Download cycle records including time, temperature and pressure. Includes USB drive, USB cable and PC board (technician installation required).

OPTIONAL WATER MANAGEMENT SYSTEMS

Autofill The optional autofill accessory (left) can be paired with your choice of water filtration system (right) to limit user intervention and use fresh water with every cycle.

Water filtration system not sold by Midmark.

Auto-Drain
The optional VistaCool™ Direct-to-Drain System for Autoclave Wastewater reduces the temperature of sterilizer wastewater before sending it directly and safely to the drain. This non-electric, self-monitoring and self-regulating system frees staff to spend more time at the point of care and less time maintaining equipment.



What You Get With Midmark

Services + Support

TECHNICAL SPECIFICATIONS
View technical specifications for Midmark M9® and M11® Steam Sterilizers.

MIDMARK LIVE DESIGN
Our in-house design experts are ready to help you every step of the way.

MIDMARK DELIVERY SERVICES
Coordination, delivery and setup right on time, every time.

CLINICAL EDUCATION
Trust in our expert educators to assist you in implementing your Midmark devices.

REPAIR + SERVICE
Explore available support and service plans so you can obtain the level of coverage you need to keep your medical equipment and devices operational. This includes periodic maintenance and periodic inspection plans, as well as extended warranty plans.

PROTECT YOUR INVESTMENT
Register your warranty today to receive prompt support when you need it and opt in to receive future notifications for available software updates.

SOURCES

1 https://pure-processing.com/blog/time-how-instrument-reprocessing-professionals-are-fighting-the-clock
2 https://pubmed.ncbi.nlm.nih.gov/23516758
3 https://www.cdc.gov/infectioncontrol/guidelines/disinfection/sterilization/sterilizing-practices.html
4 https://fgiguidelines.org
5 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6252925

Designing better care®

USGBC
MEMBER

CARB 93120.2 Phase 2 Compliant and TSCA Title VI Compliant

The color examples shown are the best representation of the original material.
Actual color may vary slightly. We strongly recommend that you contact Midmark
Customer Experience at 1.800.MIDMARK to request a sample before placing your order.

Midmark is an ISO 13485 and ISO 9001 Certified Company.
Certain products are not included. See the complete list at: midmark.com/ISO

For more information, contact your authorized Midmark distributor or call:
1.800.MIDMARK Outside the USA call: 1.937.526.3662 or visit our website: midmark.com

VistaCool™ Direct-to-Drain System for Autoclave Wastewater is manufactured
by Crosstex International, Inc., for distribution by Midmark Corporation, Versailles, OH.

VistaCool™ is a trademark of Crosstex International, Inc., a Cantel Medical Company, Hauppauge, NY.

Tog-L-Loc is a registered trademark of BTM Corporation, Bloomfield Hills, MI.

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