HAMILTON

Microlab® Prep™

Your New Lab Partner

How Do You Prep?

Laboratory automation can revolutionize the work in any lab, bringing speed and consistency to pipetting work that is often monotonous and prone to error.

microLAB Prep

Trading the hand pipettes for automation is often a huge investment for a lab, taking money to get started and automation engineering to properly set up workflows. The affordable and user-friendly solution is the Hamilton® Microlab® Prep™.

The Prep is automation that easily fits onto a lab bench, is built for ease of use and speed, and all at a price that's affordable for any lab. Plus, it's backed by Hamilton's quality engineering, with the same precise liquid handling and robust hardware that you can find in even the largest automation solutions. Whether you are getting started with lab automation or just need automation to relieve the hand pipetting in your lab, the Microlab Prep is your answer.

SINCE 1953

HAMILTON COMPANY: HELPING INNOVATE THE JOURNEY OF DISCOVERY

Get Started

Define Workflow

Program a Protocol with a Few Steps

Simulate to Confirm

Run the Microlab Prep

Save Protocol for Next Time

When to Use Hand Pipetting

- Only a few samples in use
- Small plates or a small number of tubes

When to Use Automation

- Many samples in use
- Full plates or tube racks
- Ergonomic issues are a concern
- A need to increase reproducibility while decreasing errors

Classic Hamilton Quality, Tiny Footprint

Hamilton has earned a reputation for top-quality automation with solutions that support science in labs around the world again and again. The Microlab Prep takes Hamilton's workhorse automation and boils it down into a 3 sq. ft. footprint. With the reliable automation features Hamilton is known for, plus a few new innovations, the Microlab Prep is ready to revolutionize the repetitive work in your lab.

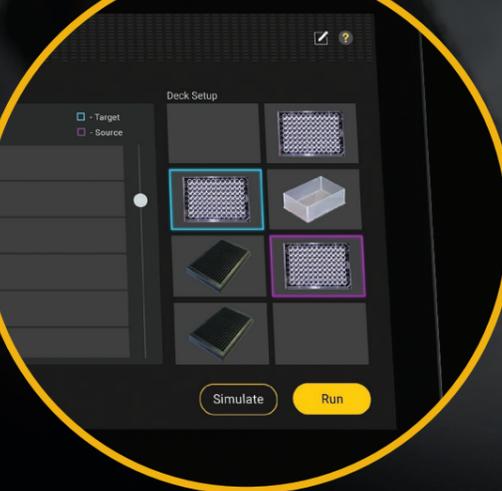### Capacitive Liquid Level Detection (cLLD) and Clot Detection

The Microlab Prep channels are equipped with capacitance and pressure sensors that enable capacitive liquid level detection (cLLD) and clot detection. Hamilton's black conductive tips facilitate capacitance sensing, enabling channels to detect the liquid level in labware. Sensitive pressure sensors enable pressure monitoring during the aspiration process, notifying users of aspiration difficulties such as clots or empty wells.

Air Displacement Pipetting

The Microlab Prep uses air displacement technology, which is similar technology to using a hand pipette, without the issues associated with liquid-filled automated pipetting systems. Air displacement allows for high pipetting accuracy and precision with a dynamic pipetting range of 1–1000 µL. Take advantage of the precision, with less maintenance and reduced risk of contamination or sample dilution.

Superior Liquid Handling Technology: CO-RE® II

Automated liquid handling applications require precise tip attachment and positioning. To ensure this precision, all Hamilton liquid handling workstations, including the Microlab Prep, offer proprietary Compressed O-Ring Expansion (CO-RE II) technology. CO-RE II technology attaches disposable tips or CO-RE II Paddles to the pipetting channels with a robust lock-and-key style mechanism. The system requires no vertical force for tip attachment or tip ejection, eliminating mechanical stress and improving overall system reliability, pipetting speed, positional accuracy, and dexterity.

Built-in Labware Detection for Speed

Every Microlab Prep features a camera mounted to the top of the workstation that detects and identifies the labware placed on the deck. Camera-identified labware makes programming new protocols easy to breeze through, without reading through long lists of choices. It also enables proper verification of labware on the deck when running a protocol that has already been programmed, double checking that the deck is filled with the right labware in the right places.

Simple Touchscreen Programming

Say hello to minimal and modern software that's as easy to use as your smartphone. Build and simulate new protocols using thoughtfully designed wizards for common pipetting actions. With a library of protocols at the ready, tap and run any protocol. It's as low fuss as using a hand pipette, except you'll never have to worry about carpal tunnel.

Build The Prep For Your Lab

At Hamilton, we don't believe that one size fits all. Even with the small footprint of the Microlab Prep, you can choose what tools and features you need to get the most out of automation for your lab.

MAGNETS

Invitrogen™ Magnetic Stand-96

Applied Biosystems Ambion™ Magnetic-Ring Stand

Alpaqua® Magnum™ FLX Enhanced Universal Magnet Plate

Alpaqua® Magnum™ EX Universal Magnet Plate

Alpaqua® 96 S Magnet Plate

RACKS

Reagent Reservoir Rack
5 x 60 mL

Framed Tip Rack

Tube Rack
10.5 – 16 mm OD, 75 – 125 mm H

Small Tube Rack
9.5 – 11.5 mm OD, 30 – 50 mm H

Microlab Prep Liquid & Solid Waste
Included in all Microlab Prep systems

DEVICES

Barcode Scanner

Fume Hood Integration Kit

CO-RE® Paddles

Hamilton Heater Shaker

Hamilton Heater Cooler

Get Your New Lab Partner at:
www.hamiltoncompany.com/prep

PIPETTING OPTIONS

The Microlab Prep features three possible configurations for pipetting automation.

2 Channels
This configuration features two Hamilton CO-RE II channels. Channels can move independently and are compatible with a wide range of Hamilton CO-RE II tips. This standard configuration provides the most flexibility for pipetting to different labware types, including reagent reservoirs, tubes, and plates.

8 Multi-Probe Head
This configuration features a set of eight Hamilton CO-RE II channels that operate together and are compatible with a wide range of Hamilton CO-RE II tips. This standard configuration is optimized for pipetting speed across ANSI/SLAS standard 96-well plates.

2 Channels + 8 Multi-Probe Head
This configuration features two independently operable Hamilton CO-RE II channels in addition to the eight channels that operate together. This upgraded configuration offers the most versatility overall, with independent channels for labware flexibility and the 8 MPH for stamping speed.

QUICKLY COMPARE

	2 Channels	8 Multi-Probe Head	2 Channels + 8 Multi-Probe Head
Number of pipetting actions that can take place at one time	2	8	2 or 8
Compatible with ANSI/SLAS 96-well plates	Yes	Yes	Yes
Compatible with ANSI/SLAS 384-well plates	Yes	Yes	Yes
Compatible with reagent reservoirs	Yes	Yes	Yes
Compatible with tubes	Yes	No	Yes
Additional Information	Flexibly works with all labware types	Optimized to complete pipetting tasks quickly and in bulk for compatible labware types	Features both configurations to ensure flexibility and expedience for all pipetting tasks

Introducing Prep CAP

Air Filtration and UV Decontamination for the Microlab Prep.

PREP CAP

Hamilton's Prep CAP system delivers clean air to the Microlab Prep using a 99.99% efficient 0.3 µm HEPA filter, protecting samples from airborne contaminants. Integrated UV LEDs sterilize the Prep's interior to minimize contamination risks.

FEATURES

- Prep CAP filters air through a 99.99% efficient 0.3 µm HEPA filter with pre-filter to protect the internal work area from contaminants.

- Airflow monitoring ensures reliable HEPA performance and alerts users to torn or dirty filters.

- 270 nm UV-C sterilizes the deck area to prevent contamination from DNA or biological materials such as bacteria, fungi, and other microorganisms.

- 270 nm UV-C emits at the peak effectivity for decontamination, providing a 30% higher dose rate.

- Active UV decontamination is indicated visually through the instrument lighting and UV lights turn off automatically when the door is opened for user safety.

- UV-C LED technology eliminates mercury and high-voltages from the system.

- LED technology increases bulb life cycle to 10,000 hours.

- Prep CAP is fully controlled through the Prep's software, including user-guided maintenance routines without the need for specialized tools.

- Prep CAP upgrade can be performed on existing Microlab Prep instruments.

Explore The Benefits

Protects samples by removing 99.99% of airborne contaminants.

UV-C lighting sterilizes the deck area to prevent contamination.

Simple operation through the Prep's software system.

Learn More:
hamiltoncompany.com/prepcap

Programming with a Few Easy Taps

Most automation software is designed for a clunky desktop computer with interfaces so complicated that it seems like you need a software engineer to get the most from it. Not with the Microlab Prep. With a mounted touchscreen interface, you can design a new protocol with a few taps of your finger. The software interface was designed to be as easy to use as your smartphone, with step-by-step wizards for set up, runtime, and maintenance. Stepping away from the hand pipette was never as easy as it is now.

The Microlab Prep identifies labware using machine vision to quickly build a deck layout and eliminates the need to look through long lists of labware.

microLAB Prep
Protocol
Add and confirm labware

HHS

Tip Rack ✎
300 µL Framed Conductive No Filter
300 µL   Black (conductive)   Framed

Plate ✎
Hamilton, Deep Well, U-Bottom, 2.2mL, Clear
96-well   DWP

Reservoir ✎
Hamilton, 5 x 60mL Reagent Reservoir
5-compartment

Tip Rack ✎
1000 µL Framed Conductive No Filter
1 mL   Black (conductive)   Framed

Tip Rack ✎
1000 µL Framed Conductive No Filter
1 mL   Black (conductive)   Framed

Plate ✎
Hamilton, Deep Well, U-Bottom, 2.2mL, Clear
96-well   DWP

Microtube ✎
Eppendorf, Safe-Lock Tube, 2.0 mL

Cancel   Detect   Confirm

Programming a protocol is as simple as putting together a few steps. Select what steps you need from the user interface and chain them together to create a protocol.

microLAB Prep
New Step

Basic   Advanced

Transfer Samples

Add Reagent

Heat / Shake

Heat / Cool

Wait

Read Barcodes

How Many Samples

Cancel

With just a few taps, the Microlab Prep steps can easily be programmed without any training or previous automation experience.

microLAB Prep

Add Reagent Step
Protocol 36 - [Add Reagent]

🏠 ❓

✓ Pipetting Tool — ② Select Reagent — ③ Select Targets — ④ Pipetting Settings

General | Tips | Aspirate | Dispense | Liquid

Tip type
1000 µL Framed Conductive No F... ▼

Volume per well
200
µL
⊖ ⊕

Dispense type
Multi-Dispense ▼

◯ Mix before aspirate
◯ Mix after dispense

Cancel | Back | **Finish**

The Microlab Prep's one of a kind camera ensures that labware is loaded correctly prior to a run, alerting users if labware is missing or incorrect labware was loaded.

microLAB Prep

Sample Dilution
Start protocol or modify labware

❓

🌡° | HHS | ✓ | ⚠ Confirm Labware

Tip Rack
1000 µL Framed Conductive No Filter
Tip Count Required: 96 Suggested: 96 Present: 96

Tip Rack
1000 µL Framed Conductive No Filter
Tip Count Required: 8 Suggested: 96 Present: 92

Plate
Hamilton, Deep Well, U-Bottom, 2.2mL, Clear

⚠ Wrong Labware | ⚠ Missing

Plate
Hamilton, Deep Well, U-Bottom, 2.2mL, Clear

Reservoir
Hamilton, 5 x 60mL Reagent Reservoir
Tap for Details

✓ | ✓

Troubleshoot Results
✓ Show tip selection

Cancel | Detect | **Start**

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microLAB Prep

🏠 ❓

The run screen shows you exactly what is happening during your run when critical samples are on deck. You can see how much time is left, which action is being performed, and what steps are remaining.

microLAB Prep

Sample Dilution (Simulating)

wwonka

Step View   Plate View

Browse

● Start

✓ Add Reagent

② **Transfer Samples**

● 2 of 2

HHS

00:00:33
Remaining Time

Simulation speed

Slow ——————————●— Fast

○ Eject Tips To Waste

Pause   Stop

The Mircolab Prep has several features that can support a laboratories compliance with the United States Food and Drug Administration's 21 CFR Part 11.10 regulation, including generation of records and limited system access.

microLAB Prep

Protocol-52 (Simulating)

🏠 ?

Step View   Plate View

● Start

✓ Add Reagent Step

● End

HHS

Run Completed

✓ The protocol was successfully completed.

Unload all processed labware and remaining reagents.

Home   Park Instrument   View Report

Simulation speed

Slow ——————————●— Fast

Home

Pause   Stop

Hamilton provides programmed maintenance and service routines to ensure that your Prep is functioning properly.

microLAB Prep

Maintenance Routines

🏠 ?

Name ↑	Date Completed	Information	Status
Daily Maintenance	11/18/2021	Expired 11/19/2021	Ok
Data Maintenance	12/28/2021	Expires 1/4/2022	Ok
Database Backup	12/28/2021	Expires 1/4/2022	Ok
Replace Front Stop Disc and O-Ring	1/26/2021	Tip Ejects: 739 of 20000	Ok
Replace MPH Stop Disc and O-Rings	1/7/2021	Tip Ejects: 981 of 20000	Ok
Replace Pipetting Head	1/7/2021	Expires 1/6/2028	Ok
Replace Rear Stop Disc and O-Ring	1/7/2021	Tip Ejects: 1210 of 20000	Ok
Weekly Maintenance	1/7/2021	Expired 1/14/2021	Ok
Weekly Maintenance	11/7/2021	Expires 1/7/2022	Ok

Settings   Run

Pick Your Pipetting Tips

Hamilton provides a wide range of CO-RE II tips that support a diversity of volumes and automation activity. CO-RE II tips are designed to fit together with the O-Rings in each Hamilton pipetting channel, meaning better precision for your liquid handling and less wear and tear on your hardware in the long run.
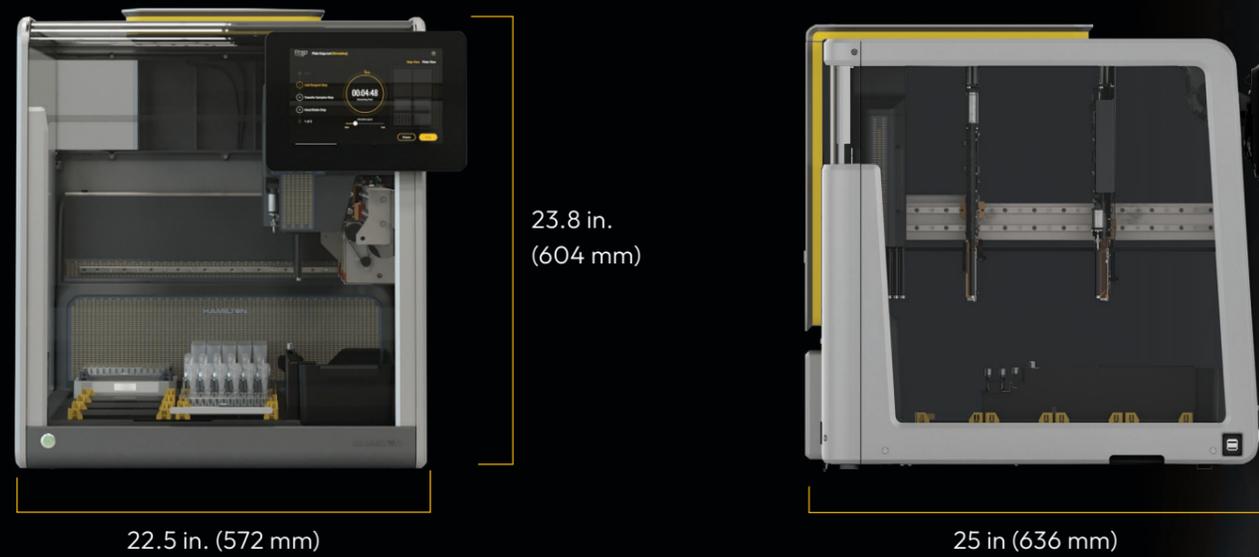
CO-RE® II Tips

Available Options	P/N	Case
50 μL Conductive Non-Sterile Filter Tip	235948	Case of 5760 tips (Blister 5 x 96 tips per rack)
50 μL Conductive Non-Sterile Non-Filter Tips	235966	Case of 5760 tips (Blister 5 x 96 tips per rack)
50 μL Conductive Sterile Filter Tips	235979	Case of 5760 tips (Blister 5 x 96 tips per rack)
50 μL Conductive Sterile Non-Filter Tips	235978	Case of 5760 tips (Blister 5 x 96 tips per rack)
50 μL Nested Conductive Non-Sterile Non-Filter Tips	235947	Case of 11,520 tips (NTR 5 x 4 stack)
50 μL Nested Conductive Sterile Non-Filter Tips	235987	Case of 11,520 tips (NTR 5 x 4 stack)
300 μL Conductive Non-Sterile Filter Tips	235903	Case of 5760 tips (Blister 5 x 96 tips per rack)
300 μL Conductive Non-Sterile Non-Filter Tips	235902	Case of 5760 tips (Blister 5 x 96 tips per rack)
300 μL Conductive Sterile Filter Tips	235938	Case of 5760 tips (Blister 5 x 96 tips per rack)
300 μL Conductive Sterile Non-Filter Tips	235937	Case of 5760 tips (Blister 5 x 96 tips per rack)
300 μL Nested Conductive Non-Sterile Non-Filter Tips	235950	Case of 11,520 tips (NTR 5 x 4 stack)
300 μL Nested Conductive Sterile Non-Filter Tips	235985	Case of 11,520 tips (NTR 5 x 4 stack)
1000 μL Conductive Non-Sterile Filter Tips	235905	Case of 5760 tips (Blister 5 x 96 tips per rack)
1000 μL Conductive Non-Sterile Non-Filter Tips	235904	Case of 5760 tips (Blister 5 x 96 tips per rack)
1000 μL Conductive Sterile Filter Tips	235940	Case of 5760 tips (Blister 5 x 96 tips per rack)
1000 μL Conductive Sterile Non-Filter Tips	235939	Case of 5760 tips (Blister 5 x 96 tips per rack)

*Clear tip also available for purchase.

Microlab Prep Accessories and Consumables

Available Options	P/N	Case
24 Position Small Tube Rack	6600409-01	24 position tube rack (Compatible tube size: 9.5–11.5 mm OD, 30–50 mm H)
Framed Tip Rack	6600553-01	Rack for framed tips
24 Position Large Tube Rack	6600555-01	24 position tube rack (Compatible tube size: 10.5–16 mm OD, 75–125 mm H))
Reagent Reservoir Rack	6600700-01	5 x 60 mL reagent rack
Handheld Barcode Scanner	6603432-01	1D handheld barcode scanner
Fume Hood Kit	6603189-01	Stand and cables for touch screen and enclosure removal
2 mm Hamilton Heater Shaker	6601885-02	Heats up to 105 °C and Shakes up to 2500 rpm
3 mm Hamilton Heater Shaker	6601885-01	Heats up to 105 °C and Shakes up to 2500 rpm
Hamilton Heater Cooler	6601900-02	Controllable temperature range 0 °C to 110 °C (Low temperature dependent on environmental factors and adapter used)
384 Well PCR Adapter	67392-01	Can be used to improve thermal performance on the Hamilton Heater Cooler only
96-Well PCR Adapter	67391-01	Can be used to improve thermal performance on the Hamilton Heater Cooler only
24-Tube Adapter	6609979-01	Can be used to improve thermal performance on the Hamilton Heater Cooler only
Invitrogen 96 Position Post Magnetic Plate	94696-01	Compatible magnetic plate for bead based extractions
Applied Biosys, Ambion, 96 Ring Stand Magnet	OTP-TMOI-0051	Compatible magnetic plate for bead based extractions
Alpaqua Magnum FLX Magnetic Plate	OTP-ALPQ-0008	Compatible magnetic plate for bead based extractions
Alpaqua Magnum EX Magnetic Plate	OTP-ALPQ-0007	Compatible magnetic plate for bead based extractions
Alpaqua 96S Ring Magnetic Plate	OTP-A001322	Compatible magnetic plate for bead based extractions
Microlab Prep Enclosure	6608001-01	Replacement enclosure to enable HHC for units without
2 Channel CO-RE II O-Ring Kit	6607080-01	2 pack replacement CO-RE II O-Rings
10 Channel CO-RE II O-Ring Kit	6607080-02	10 pack replacement CO-RE II O-Rings
Silicone Oil	6603044-01	Lubrication for yearly maintenance
Verification Kit with two Framed Tip Racks	6604125-01	Photometric and gravemetric volume verification kit; includes two framed tip racks
Verification Kit (Liquids and Labware)	6604125-02	Photometric and gravemetric volume verification kit
Biohazard Waste Bags	6603183-01	Tip waste bags (50 per roll)

Specifications

23.8 in. (604 mm)

22.5 in. (572 mm)

25 in (636 mm)

Size and Weight	
Size with Touchscreen (W x H x D)	22.5 in. (572 mm) x 23.8 in. (604 mm) x 25 in. (636 mm) (31.9 in. height with door open)
Size without Touchscreen (W x H x D)	20.9 in. (531 mm) x 23.8 in. (604 mm) x 24.3 in. (617 mm) (31.9 in. height with door open)
Weight	91.5 lbs. (41.6 kg)
Operation	
Deck Capacity	8 Positions
Communication	Ethernet, USB
Operating Temperature	15 °C to 35 °C
Operating Humidity	15% to 85% R.H. non-condensing
Storage	
Storage Temperature	-20 °C to 70 °C
Storage Humidity	10% to 90% R.H. non-condensing
Power Supply and Procurement Requirements	
Input Specs	Power supply must accept input between 100 VAC to 240 VAC +/- 10% at 50 to 60 hz
Output Specs	500 W @ 48 VDC
Work Accessibility	
8 ANSI/SLAS microplate footprint deck positions	

Pipetting Specifications for Microlab Prep Channels			
Nominal Tip Size	Pipetted Volume	Trueness	Precision
50 µL	1 µL	5.00%	5.00%
50 µL	5 µL	2.50%	2.00%
50 µL	50 µL	2.00%	1.00%
300 µL	30 µL	2.00%	1.50%
300 µL	300 µL	1.00%	1.00%
1,000 µL	100 µL	2.00%	1.00%
1,000 µL	1,000 µL	1.00%	1.00%

Prep CAP Specifications

28.2 in. (716.3 mm)

22.5 in. (572 mm)

26.2 in. (665.5 mm)

General Specifications	
Description	Specification
Physical Dimensions Including ML Prep (W x H x D)	572 x 716.3 x 665.5 mm (22.5 x 28.2 x 26.2 in.)
Weight Including ML Prep	50 kg (110 lbs.)
Communication Type	Direct Communication Through Prep UI

Operating Specifications	
Description	Specification
Input Power (Primary), Universal Supply	100–240 VAC, 50–60 Hz (Powered by ML Prep)
Output Power (Secondary)	500 W at 48 V
Operating Temperature Range	5°C to 35°C (41°F to 95°F)
Operating Relative Humidity	15%–85% (no condensation)

Storage Specifications	
Description	Specification
Storage Temperature Range	-20°C to 70°C (-4°F to 158°F)
Storage Relative Humidity	10%-90% (no condensation)

HEPA Filter Specifications	
Description	Specification
Max Airflow	47 CFM
Max Fan Speed	6400 RPM

UV LED Specifications	
Description	Specification
Emitted Peak Wavelength	270 nm
Lifespan	10,000 hours

About Hamilton

Innovation for a Better World.

Hamilton Company specializes in the development, manufacturing, and customization of precision measurement devices, automated liquid handling workstations, and sample management systems.

Hamilton's processes are optimized for quality and flexibility. Whether it's a custom needle with a quick delivery time frame, a special length pH sensor, or a comprehensive solution to fully automate your assay workflow, trust that Hamilton's products will always meet your needs.

OUR COMPLETE PORTFOLIO

Laboratory Products

Hamilton Laboratory Products manufactures Microliter™ and Gastight® syringes that set the standard for analytical fluid measurement. Other products include custom needles, semi-automated diluters and dispensers, polymeric HPLC columns, pH electrodes, pipettes, and more.

Robotics

Hamilton Robotics provides automated liquid handling workstations and laboratory automation technology for the scientific community. With a focus on innovative design, our products incorporate Hamilton's patented liquid handling technologies for fully automated solutions. In addition to liquid handling platforms, we also offer application-specific solutions, small devices, and consumables.

Storage

Hamilton Storage offers ultra-low temperature automated sample management systems for storage of a variety of labware. Hamilton's line of biobanking and compound management systems, benchtop devices, and consumables are designed for sample integrity, flexibility, and reliability.

Process Analytics

Hamilton Process Analytics includes innovative solutions for the on-line measurement of pH, dissolved oxygen, conductivity, ORP, viable cell density, and total cell density. Hamilton's proprietary Arc® intelligent sensor technology eliminates the need for transmitters and moves the functionality to your smartphone or tablet.

OEM Solutions

Many of the world's top manufacturers utilize Hamilton products and expertise to get their innovations to market faster with lower development and manufacturing costs. As an OEM partner, we offer the ability to integrate our proven syringe pumps or pipetting channels, customize our proven liquid handling platforms, or design a complete system to automate your novel chemistry.

> Hamilton Company has been a leading global manufacturer for more than 60 years, with headquarters in Reno, Nevada; Franklin, Massachusetts; Timișoara, Romania; and Bonaduz, Switzerland; and subsidiary offices throughout the world.

Supporting You in the Lab

Hamilton is here for you to make sure your Microlab Prep keeps running in great condition after it's set up in your lab. Hamilton has been in business stocking labs with quality equipment since 1953, and we're here to support you and your workstation for the long haul.

EASY, INDEPENDENT MAINTENANCE

No service contracts are needed to maintain the Microlab Prep. The Prep was designed to be easy to care for without the need for outside assistance.

GETTING HELP FROM HAMILTON

Hamilton has a dedicated Microlab Prep Product Support team to answer software and hardware related questions. Visit us at hamiltoncompany.com/prephelp to browse help articles or to ask a Microlab Prep related question by submitting a support ticket.

ORDERING REPLACEMENT PARTS

To perform maintenance and replace parts on the Prep, contact us by visiting hamiltoncompany.com/prephelp. Hamilton support wants to make sure you get the right parts for your device and will help guide your selection before you make a purchase.

KEEPING STOCKED WITH CONSUMABLES

Tips and other consumables are a regular part of liquid handling, and Hamilton has the supplies you need. Visit us at hamiltoncompany.com/consumables to browse the online catalog.

HAMILTON

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● Headquarters / Manufacturing

Years of Experience
75+

Locations Worldwide
22+

Employees Internationally
3,000+

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