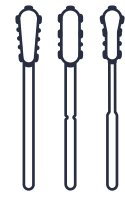


*Clinical Microbiology
Automation*

Streamline
Laboratory
Workflow





Collection



Transport



Processing



Artificial Intelligence

Today's Microbiology Laboratory is facing tough challenges. Increased workloads, labor shortages and the impending retirement boom of Medical Technologists and laboratory professionals have compelled laboratories to look for more efficient, cost-effective ways to process the influx of samples.

Technology that Serves the Laboratory

COPAN is committed to providing comprehensive solutions for preanalytics.

With unsurpassed innovation and relentless collaboration, COPAN offers solutions to laboratories around the world, helping laboratory professionals face challenges head on. From the first automated specimen processor prototype to more than 1,000 instruments worldwide, COPAN has solicited input from the Microbiology community. As a result, COPAN's full laboratory automation systems are designed to be open, modular, and forward compatible, to meet the needs of each unique laboratory today and tomorrow.

Innovation to

Improve Outcomes

MICROBIOLOGY IS ONE OF THE MOST LABOR-INTENSIVE DISCIPLINES WITHIN THE CLINICAL LABORATORY FIELD, and its role is of vital importance to overall healthcare.

It is well established that laboratory professionals are asked to do more with fewer resources and to consistently demonstrate the value of laboratory medicine in clinical outcomes.

The automation and Artificial Intelligence (AI) algorithms developed by COPAN combine the unparalleled human intelligence of the Microbiology community, with the invaluable asset of AI to help laboratories amplify their resources to provide faster actionable results to clinicians.

Increase Productivity and Decrease Cost

According to a multi-center study¹, Full Laboratory Automation can almost double productivity in the microbiology laboratory and halve the cost-per specimen, regardless of the laboratory size, specimen load or location. In addition, data shows that the turnaround time (TAT) for urine cultures can be improved from 16% finalized within 24 hours to almost 60% finalized within 24 hours using WASPLab[®] with PhenoMATRIX[®] (Figure 1).

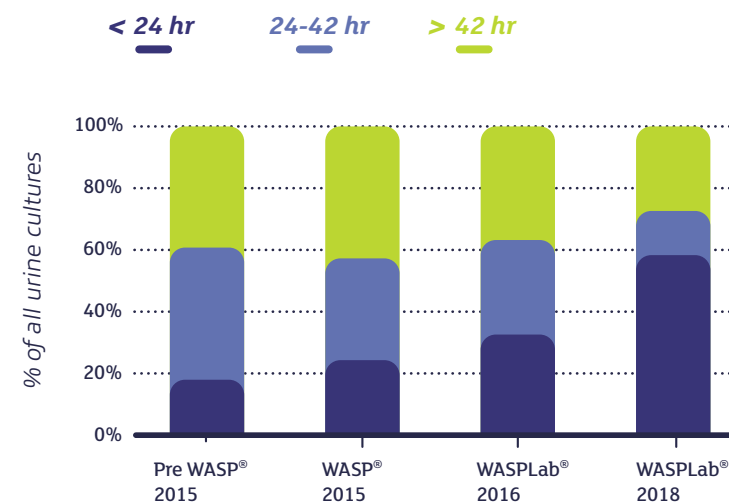


Figure 1: TAT frequency distribution with WASP[®] and Full Lab Automation

A Liquid Solution for Microbiology Samples

Full Laboratory Automation Begins at the Sample



eSwab[®]
SWABS



FecalSwab[®]
STOOL



SnotBuster[™]
SPUTUM

Maximize Automation Investment

Developed by COPAN in 2006, Liquid Based Microbiology (LBM) combines state-of-the-art flocked swabs with media, transforming challenging samples into easy-to-process, multi-purpose liquid samples which are easily processed on WASP[®] Walk-Away Specimen Processor.

WASP[®] requires no manual intervention for specimen processing procedures. While non-liquid samples or traditional swabs can be managed using streak only function, COPAN recommends Liquid Based Microbiology (LBM) product line to maximize your automation investment.

Ready to make the switch to better Microbiology with LBM? COPAN can help with change management, workflow analysis, verification guidance and training.



COPAN Full Laboratory Automation

WASPLab®
Digital Microbiology

PhenoMATRIX®
and PhenoMATRIX® TAG
*AI Enhanced Software for
Clinical Microbiology*

Radian®
*Automated Kirby Bauer
Set up and Interpretation*

Colibri™
*Fully Automated
Sample Workup*

WASP®
Walk-Away Specimen Processor

WASP-FLO™
Bulk Specimen Sorting





Automated Specimen Processor



WASP® ALLOWS THE REASSIGNMENT OF VALUABLE LABORATORY STAFF without compromising the quality of Microbiology cultures. The system is designed to mimic a technologist, utilizing best practices for planting and streaking for every patient specimen.³

Standardized, High Quality Planting and Streaking



Image analysis check confirms inoculum in loop



Automatically selects appropriate loop size (1µl, 10µl or 30µl)



Available loop sterilization between quadrants, for optimal colony isolation

Modular, Open Platform for Complete Specimen Processing Automation

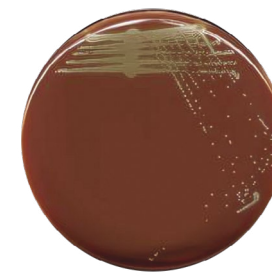
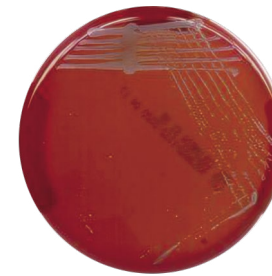
- Ensure traceability through labeling and reading
- Reduce consumables management, and environmental costs
- Scalable system adapts to any laboratory size and workflow



Up Front Specimen Processing

Automation with Proven Scientific Techniques

WASP® follows the Manual of Clinical Microbiology and Clinical & Laboratory Standards Institute (CLSI) recommendation to use 1µL to process routine urine specimens.



Plates inoculated using COPAN WASP® 1 µl loop⁴

Plates inoculated using competitor automated specimen processor, 10 µl pipet⁴

Minimize Operational Costs



WASP® uses reusable metal loops reducing operational and waste disposal costs.



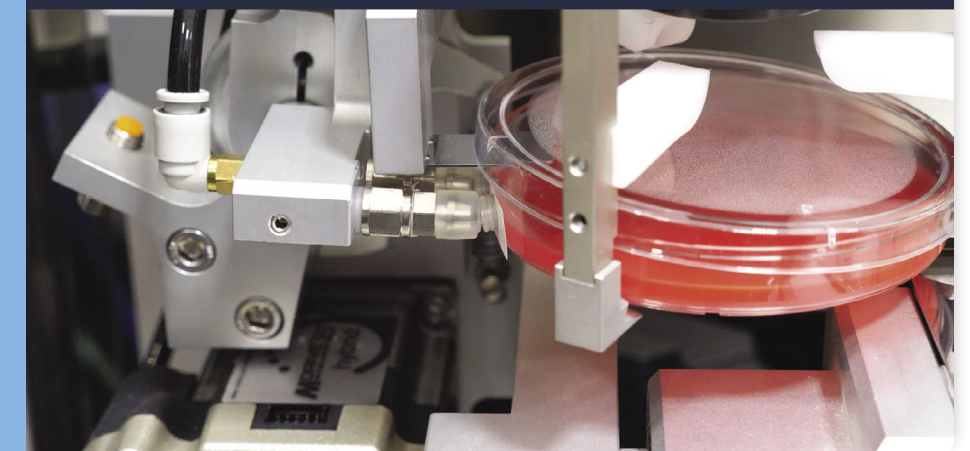
Fully electric system eliminates the need for a compressor and/or additional utility costs.



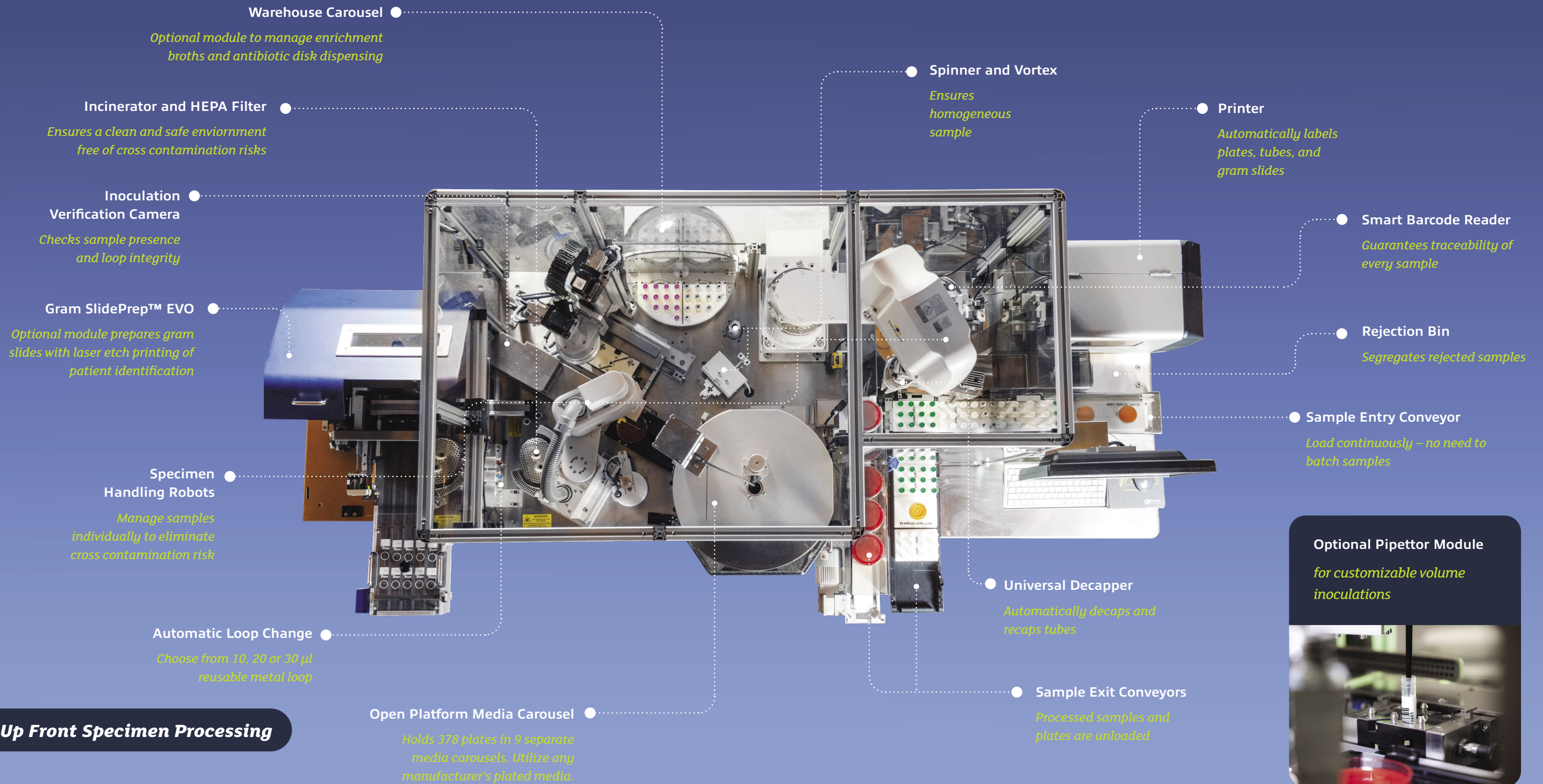
Open platform accommodates any manufacturers' media, allowing users a choice in their culture plates.

Barcode Driven System Improves Specimen Traceability

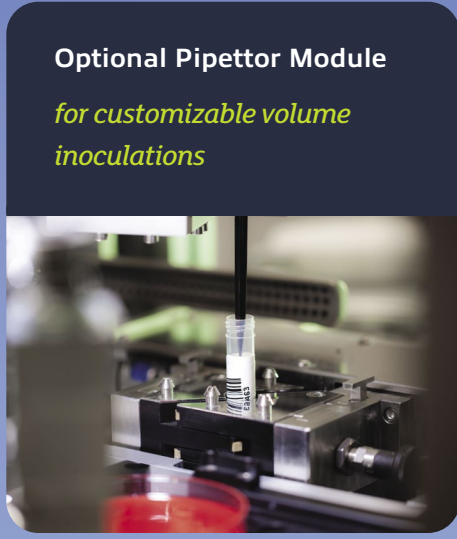
- Smart 360° scan technology reads specimen barcode labels anywhere on the container.
- Multiple labels and barcode languages on a single tube can be differentiated, discerned and read by the software.
- Labels on completed plates, gram slides, and inoculation tubes are reconciled to the patient specimen barcode.



WASP[®]: Walk-Away Specimen Processor



Up Front Specimen Processing





Digital Microbiology



WASPLAB® IS A HIGHLY EFFICIENT, MODULAR, SCALABLE AND CUSTOMIZABLE SPECIMEN PROCESSING AND CULTURE WORK-UP SYSTEM FOR CLINICAL MICROBIOLOGY. Samples move from front-end processing, to Smart Incubation, Digital Microbiology and Artificial Intelligence and Interpretive Algorithms for plate reading.



Full Laboratory Automation

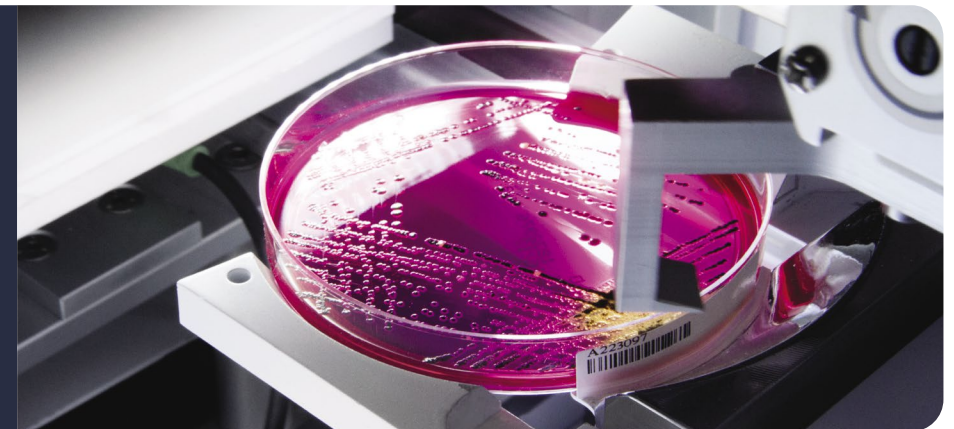
From Plate Image to Interpretation

- Standardize optimal incubation conditions for better and faster results* 5-10
- Improve laboratory productivity and quality through automated culture sorting and automated recognition of some common clinical bacterial isolates^{1,6,7}
- Modular, scalable, and adapts to every workflow^{11,12}

* Based on user experiences. Varies based on validation and user preference.

Image Acquisition System^b

A sophisticated lighting and camera system acquires the image of each plate clearly and accurately.



>1000

Lighting combinations

1600 pixel/mm

Resolution

9 mm

Depth of field

24 BIT

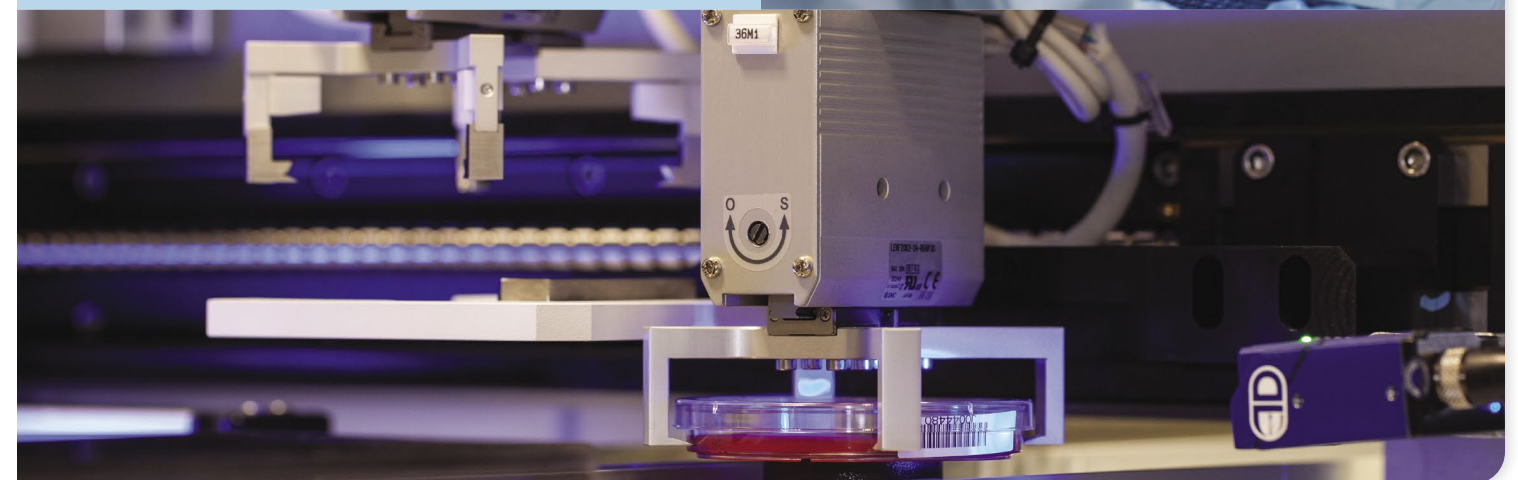
Color depth

48MP

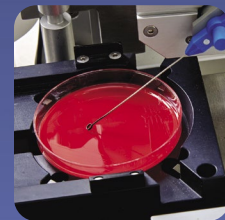
RGB telecentric Trilinear camera

User Interface Centralizes Laboratory Workflow

The WASPLab® user interface is designed as the main access point to all laboratory tasks, ensuring an easy and user-friendly interaction.



WASPLab®: Technology Leader in Full Laboratory Automation and Digital Microbiology

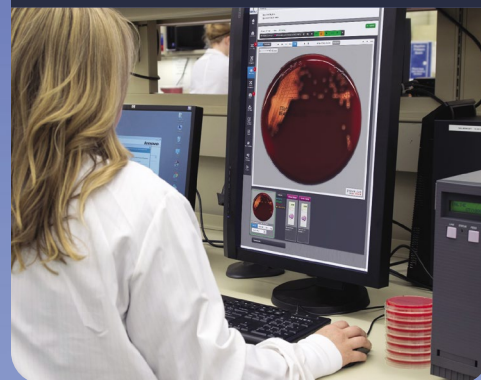


WASP® Walk Away Specimen Processor

Open platform, modular instrument addressing all aspects of specimen set up

Workstations

Plate management for screening, reading, and picking



Incubators

Available with O₂ or CO₂, double or single incubators

Robotic Incubation and Storage

Dual robot system efficiently loads plates media side down onto individual shelves ensuring uninterrupted, homogeneous incubation conditions



Offline Carousel

Allows user to manually load plates that have been manually processed onto the system



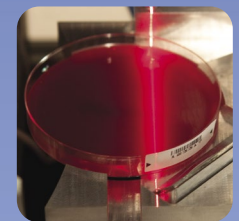
Endline Canister System

Plates are automatically sent to removable canisters or can be directed to an end-line disposal bin



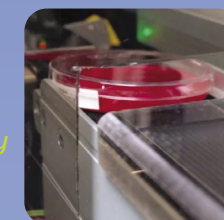
Image Acquisition

Telecentric camera acquires 48 megapixel image with multiple lighting combinations to optimize image quality depending on media type



Conveyor System

Customizable conveyors move plates from up front processing to full laboratory automation

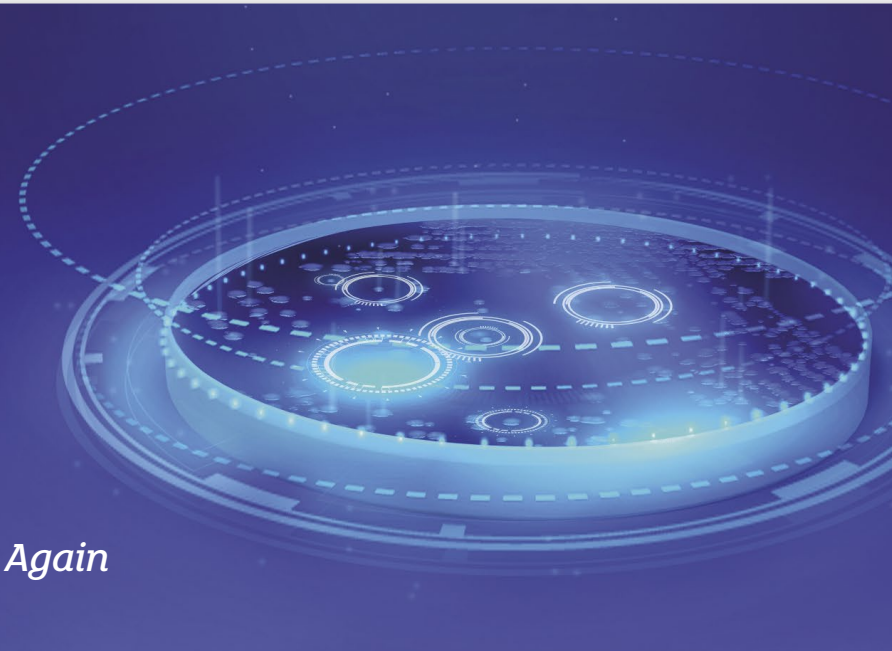


Full Laboratory Automation

PhenoMATRIX®

Artificial Intelligence for Microbiology

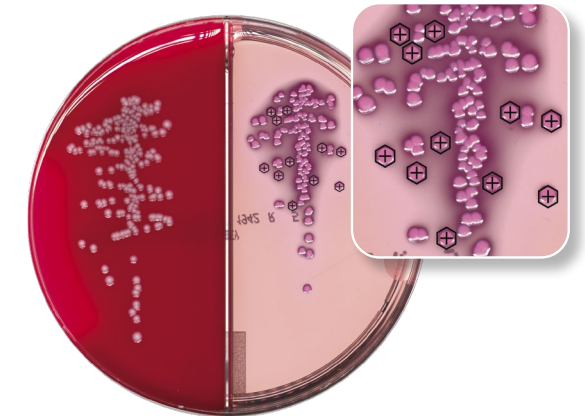
Never Touch a Negative Plate Again



PhenoMATRIX® TAG

PhenoMATRIX® TAG automatically interprets growth based on the laboratory's custom rules, presumptively identifying colonial morphology, and pre-selects the best isolated colonies for workup.

The software highlights isolated colonies as well as aggregated colonies; colonies which are not fully isolated but determined by the software to be identical and thus pure. Next, PhenoMATRIX® TAG communicates the colony coordinates to the Colibri™ for reliable and accurate picking.¹⁸⁻²⁰



UNPARALLED IN THE INDUSTRY, PHENOMATRIX® USES ARTIFICIAL INTELLIGENCE COMBINED WITH CLINICAL INFORMATION FROM THE LIS with rules customized by the laboratory to automatically read, interpret, and sort bacterial cultures with the click of a button.* Adding the PhenoMATRIX® suite of algorithms to WASPLab® automation system eases the interpretation of patient results and gives microbiology labs the ability to shorten their time to results.¹³⁻¹⁵

Automated Reading, Interpretation & Segregation of Bacterial Cultures

- Create custom filters to group plates in a folder-style interface, based on the laboratory rules
- Plates are grouped by colony count – no growth, growth, mixed growth, etc. according to laboratory workup needs
- Results are sorted using the custom filters and may be sent to LIS with a single click of a button^c
- Sorts plate images according to laboratory rules and LIS data¹⁶

PhenoMATRIX® Software Suite Comprehensive Solutions for Laboratory Processing and Work-Up

PhenoMATRIX® Essentials

Comprehensive AI software package to manage all urine culture reading and interpretation

- Colony counting and morphological recognition
- Presumptive identification capabilities
- Colony detection on validated chromogenic media plates
- Expert Rules and LIS data mining using patient information for interpretation and sorting

PhenoMATRIX® SELECT

Includes the complete Essentials package plus additional chromogenic, wound and blood culture protocols

- Chromogenic detection for MRSA, VRE and other MDRO surveillance cultures, Group A Strep, Group B Strep and *Candida auris*
- Beta hemolysis detection on blood agar for segregation of cultures with suspected Group A or B Strep
- Wound protocols* for segregation of cultures with suspected *Staphylococcus aureus* growth
- Blood culture protocols* for early detection of growth from subcultures

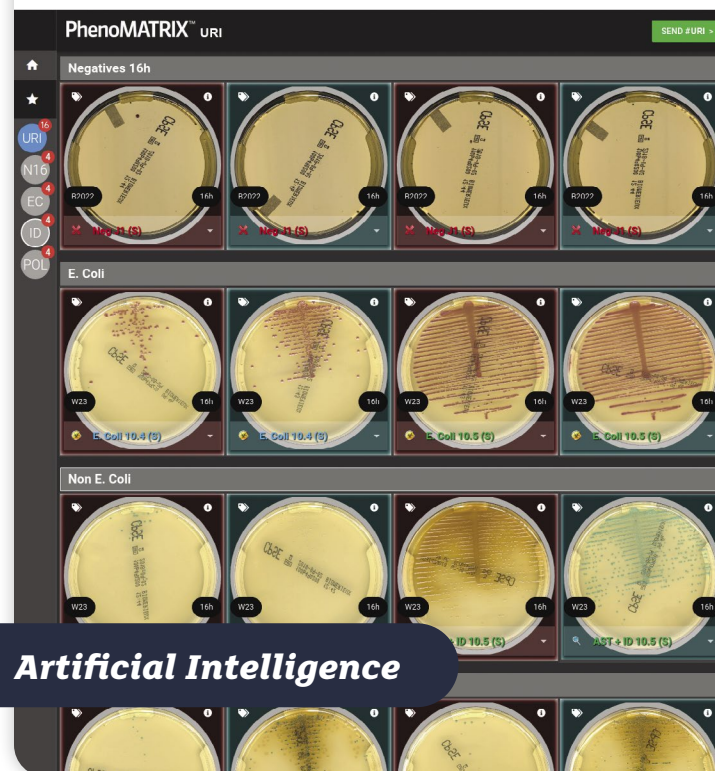
* May require additional equipment and development time

PhenoMATRIX® TAG

The most advanced software suite includes Essentials and Select and PhenoMATRIX® TAG

- Automatic predetermination (tagging) of colonies for picking by the Colibri™ for ID and AST work up.

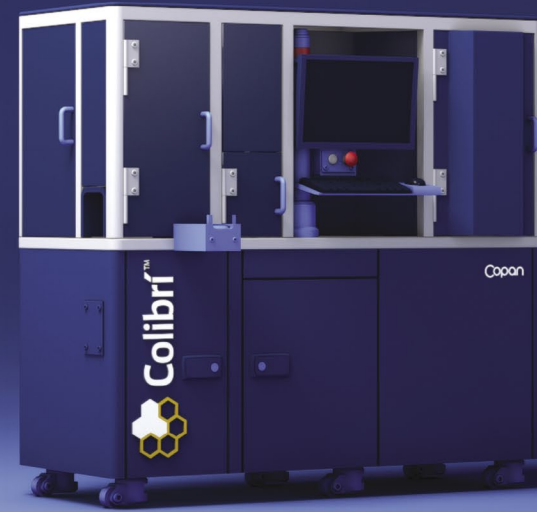
Contact your local distributor or COPAN representative for more details and pricing.



Artificial Intelligence



Automated Specimen Workup



Simplified, Automated Prep for MALDI and AST

Colibri™ automatically picks colonies previously selected by PhenoMATRIX® TAG or by an operator at the WASPLab® reading station.¹⁸

The instrument spots targets for microbial identification through MALDI-TOF technology and prepares microbial suspensions for Antibiotic Susceptibility Testing (AST).²¹⁻²⁴



Colibri™ is the first instrument in its class to receive 510(k) clearance for the preparation of MALDI-TOF slides and McFarland AST suspensions.^{25, 26}

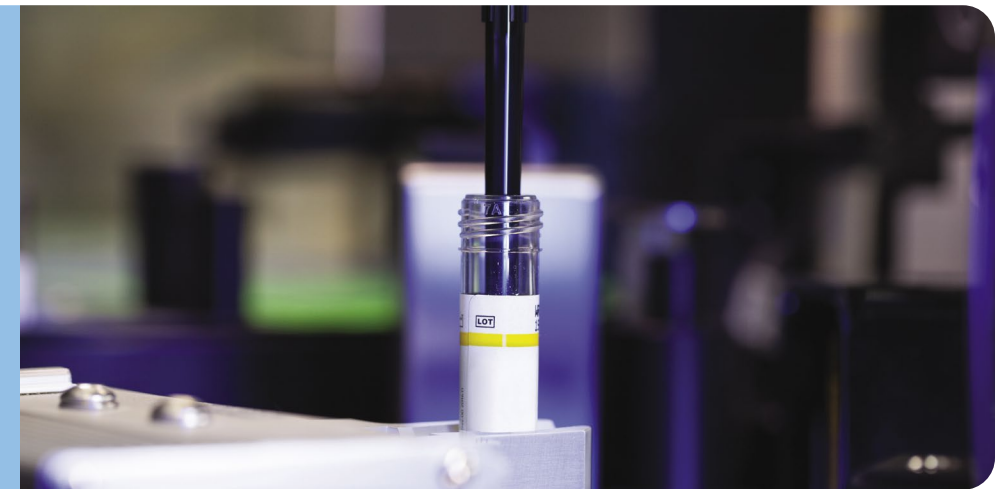


Automated Specimen Workup



Accurate Pipetting

Synchronization of nephelometer and pipettor to maximize standardization and ensure the highest precision.

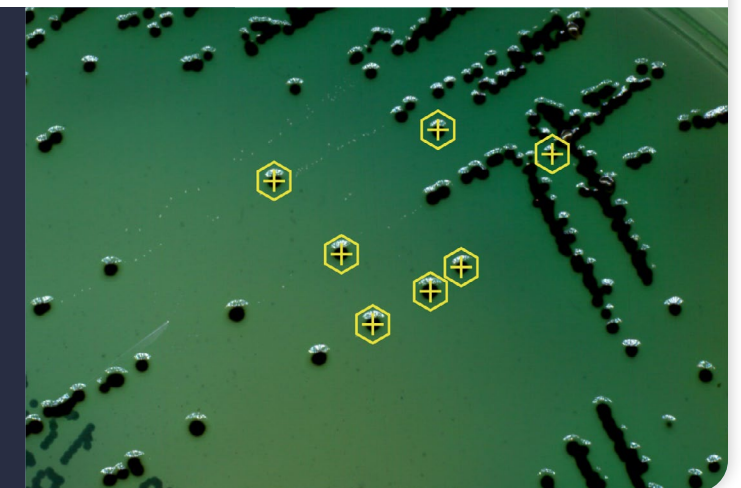


Automating Steps in Microbiology Testing for Time and Labor Savings

- Robotic pipettor**
 Handles both colony picking and liquid transfer with precision^a
- Containers table**
 Holds up to 16 target McFarland suspension tubes and AST tubes for preparation of microbial suspension^a
- Onboard Nephelometer**
 Checks turbidity of the microbial suspension to guarantee precision and standardization
- Printer and barcode system**
 Automatically labels tubes and purity plates for traceability and label reconciliation
- Vision system**
 Controls pipette alignment and retrieves the colony coordinates from WASPLab®, matching them for accurate picking

Direct communication with WASPLab® and PhenoMATRIX® TAG

The automation software highlights isolated colonies and aggregated ones with different colors. PhenoMATRIX® TAG selects the optimal colonies communicating the coordinates with Colibri™ for a reliable picking.¹⁸





Radian®

Automated AST



Radian® Expert System

A flexible, customizable, and user-friendly platform to interpret sensitive, intermediate, or resistant results. Digital interpretations are made with the specialized imaging capabilities in combination with Halo Recognition Algorithms used by Radian® Expert System.

Expert system

Keep everything in sight while working directly on the plate

Halo-reading interface

With direct communication to the rules database

Rule editor

Adapt or completely customize your own interpretation rules

RADIAN® IS A FULLY INTEGRATED WASPLAB® MODULE that automates the seeding of Mueller Hinton plates, application of antibiotic discs, robotic transfer of prepared plates to incubators, plate imaging, zone measurement, zone interpretation, and result output using the Halo Recognition Algorithms, which are part of the Radian® Expert System AI.²⁸⁻³⁴

Increase Productivity, Decrease Operational Cost

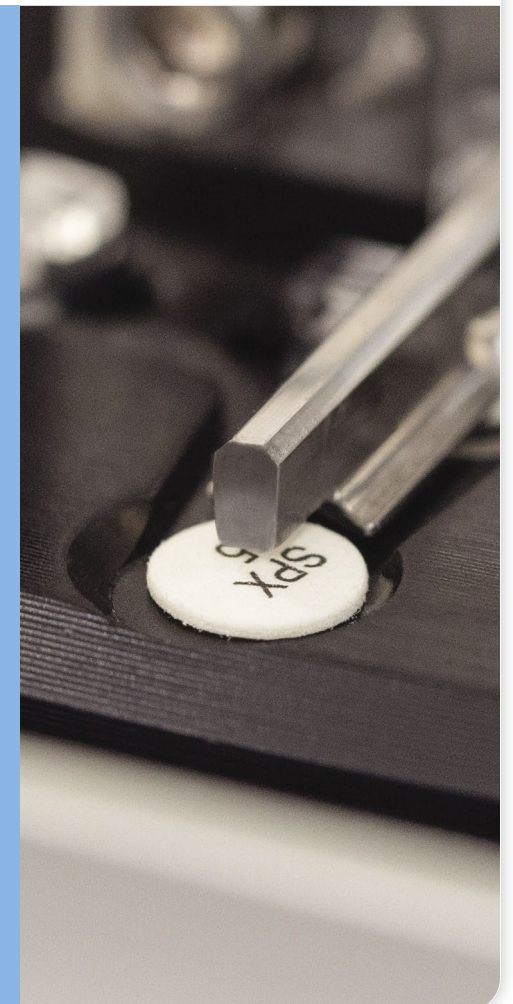
- Streamline AST workflow using automation and AI for standardization, labor savings, and improved turnaround time^{32, 33}
- When validated by the laboratory, Radian® has the potential of early susceptibility reading, allowing for more timely results^{27-30, 35}
- Automatically applies CLSI guidelines for use with direct blood culture AST^{33, 34, d}

Radian® In-Line Carousel

- Parallel redirection line**
The Radian® module sits along the WASPLab® track, easily ingrating AST tasks into the laboratory workflow
- 50 cartridge carousel**
Ensures maximum flexibility in choosing antibiotic discs
- Dual HEPA filtering system**
High-capacity antimicrobial carousel allows the system to randomly select from up to 50 antibiotics for protocols using up to 8 discs per 100mm plate.
- Quality check**
Dedicated vision system assures the disk has dispensed from the cartridge. The system also checks that the disk matches the selected protocol.



Automated AST





Moving Microbiology



WASP-FLO™ IS FOR MICROBIOLOGY LABORATORIES with multiple WASPLab® lines, to streamline sample loading and unloading. WASP-FLO™ automatically sorts samples^a, drives them to the appropriate WASP®, and batches the tubes in output racks after processing.

Workflow Efficiency

- **Dual SCARA robots**
The Pick-and-Place robots sort tubes in RFID-driven pallets and unload completed samples onto dedicated racks
- **Hopper module**
Holds up to 600 samples per batch
- **Completed specimen output**
Holds 792 samples divided into eight output racks
- **Manual specimen loading**
Includes four columns composed of eleven RFID pallets
- **Manual user interface**
Backup manual loading system for special containers

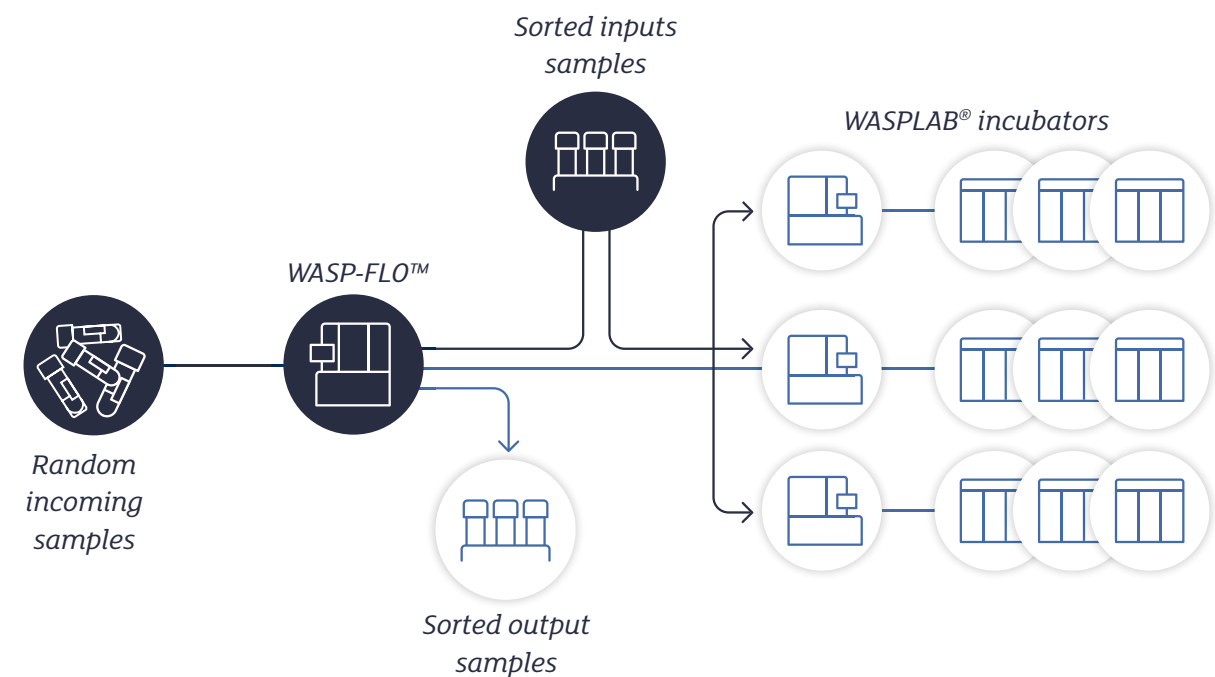


Bulk Specimen Sorter

Streamline Sample Loading

- Optimizes sample management with real time evaluation of the workload
- Boosts laboratory productivity by automatically sorting and routing samples
- Data management system monitors the path of each sample for full traceability

Workflow example



Return on Investment

Administrative and Financial Considerations

THE RETURN ON INVESTMENT (ROI) for automation will differ for each laboratory. Sample volume, sample types, operating and peak hours and future growth goals will all impact the final analysis.

Factors to Consider



Total specimen volume for bacteriology samples that are manually plated



What times during the day do specimens arrive in the lab?



Planting protocols, the amount and types of plates inoculated per specimen type; bi-plate versus whole plate; incubation parameters (O₂ or CO₂ etc)



How many full-time equivalent (FTE's) are needed to process the specimens arriving into the lab?



Staffing schedules

Example Time Savings with Automation and AI

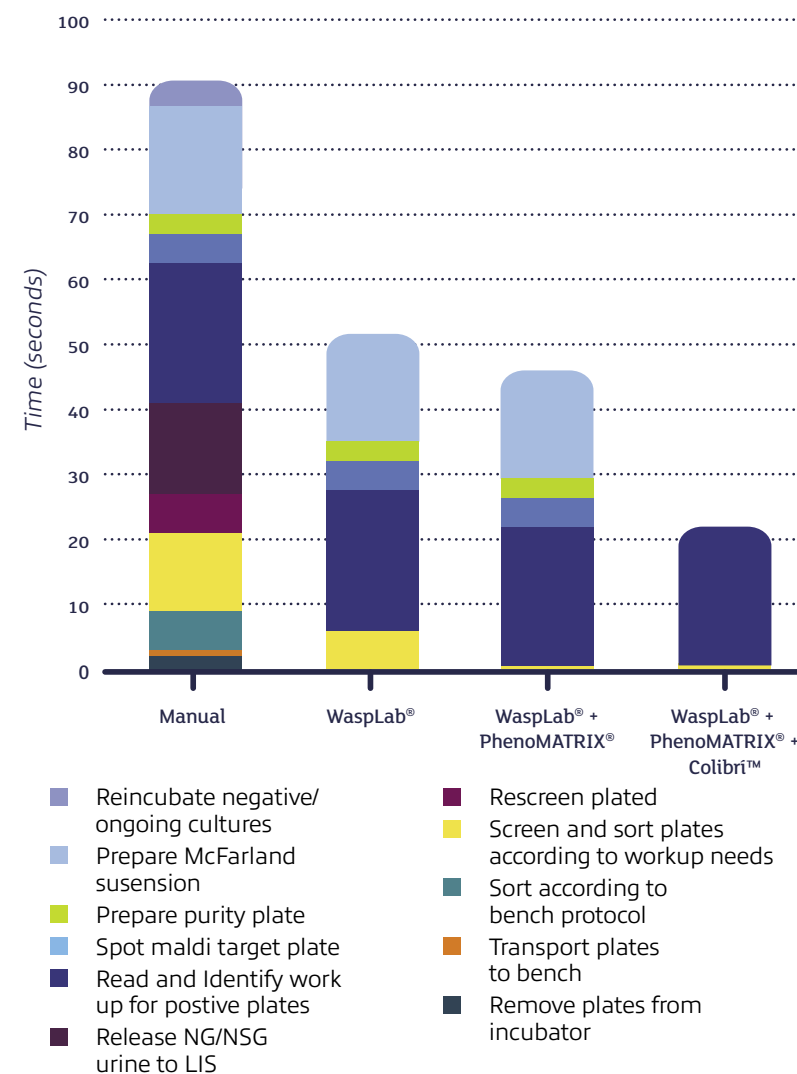


Figure 2: FTE hands-on time savings associated with automation, based on a singular urine culture and using average times from customer data collected by COPAN at over 100 U.S. and Canadian laboratories

Beyond the ROI: Additional Automation Considerations

- FTE Reallocation**
 Is there potential to expand the scope of the lab testing by automating the upfront processing? For example, can trained lab technicians perform more molecular testing or can the lab increase volume of routine testing?
- Recruiting and Retention**
 Could automation allow the lab to recruit employees more readily or retain employees in this competitive market? Consider employee engagement, removal of the repetitive non-value added tasks like manual planting and streaking.
- Cost of Quality**
 How much rework must happen in your lab? Can savings be realized by having more consistent and reproducible specimen preparation?
- New Business**
 Can the lab receive more business from outreach clients if they adopt state-of-the-art technology such as automation, digital Microbiology, and automatic plate reading?
- Turnaround Time**
 Added efficiencies of incubation, reading, set-up and reporting with automation can all contribute to faster turnaround time to results.

 Can faster turnaround time help to shorten hospital stays and improve antibiotic stewardship?

The Laboratory Workforce is Shrinking

It is widely known that the laboratories across the world are struggling to fill open vacancies in the laboratory. Laboratories face an aging population of laboratory personnel that will soon retire, a decrease in the number of graduates from laboratory educational programs and increase in testing volumes.³⁶

Automation and AI Can Help Laboratories Manage Current Challenges



Streamline Routine Tasks



Improve Efficiency and Accuracy



Optimize Workflow



Training and Education



Preserve Institutional Knowledge

Product Specifications

WASP®

Dimensions:	43.5 inches wide x 81.5 inches long x 76 inches high
Weight:	Approximately 1,300 lbs
Input Voltage:	220V, 20Amps
Network Ethernet:	100 MB
Interface:	LIS interface available upon request
Peripherals:	Touch screen monitor, external barcode reader, label printer
Certifications:	CE, UL, CSA
Electrical Receptacle Plug:	HBL2321 250V / 20A (for USA and Canada)

GRAM SLIDEPREP™ EVO

Dimensions:	28 inches wide x 23 inches long x 49.5 inches high
Weight:	Approximately 221 lbs

INCUBATORS

Dimensions Single:	45.1 inches wide x 33.7 inches long x 91.1 inches high
Dimensions Double:	68.5 inches wide x 33.7 inches long x 91.1 inches high
Weight:	Approximately 1,000 lbs (Single) Approximately 2,000 lbs (Double)
Input Voltage:	220V, 20Amps
Atmospheric Conditions:	CO ₂ and Aerobic
Capacity Single:	795 plates
Capacity Double:	1,590 plates
Electrical Receptacle Plug:	HBL2321 250V / 20A (for USA and Canada)

COLIBRI™

Dimensions:	39.2 inches wide x 78 inches long x 75.2 inches high
Weight:	Approximately 1,700 lbs (according to the configuration)
Power Supply:	208-240 VAC~50/60 Hz, 1500 W max (peak)
Minimum Differential:	Magneto thermic differential swith D-16A 300mA
Connection:	Interlocked plug like IEC 60306 or NEMA L6-20P
Remote Control:	Ethernet 100Mb
Environmental Working Conditions:	15 °C-32 °C, 30%-60% Humidity
Thermal Output:	4760 Btu/1.4 Kw
Noise Emission:	Max 67.4 dB
Connected Peripherals:	Touch Screen, Mouse, Keyboard, Printer, 2XBarcode, Readers, Vision System

WASP-FLO™

Dimensions:	Hopper module: 39.1 inches wide x 45.2 inches long x 67 inches high Loading module: 89.3 inches wide x 69.2 inches long x 81.4 inches high Conveyor: According to specific layout
Weight:	Hopper module: Approximately 855 lbs Loading module: Approximately 2165 lbs Conveyor: Weight variable according to layout, approx 100 kg/m per single conveyor
Electrical Specifications:	208-240 VAC, 50/60 Hz, 2000 W max (800 W WASP-FLO Loading Module+ 1200 W WASP-FLO Conveyor)
OPERATING CONDITIONS	
Height:	Up to 78.7 inches
Humidity:	From 0 to 95%
Temperature Range:	From 5 °C to 40 °C

Scientific References

- Culbreath, K., Piwonka, H., Korver, J., & Noorbakhsh, M. (2021). *Benefits derived from full laboratory automation in microbiology: A tale of four laboratories*. Journal of Clinical Microbiology, 59(3), e01969-20. <https://doi.org/10.1128/JCM.01969-20>
- Kritikos, A., Croxatto, A., & Culbreath, K. (2022). *Current state of laboratory automation in clinical microbiology laboratory*. Clinical Chemistry, 68(1), 99–114. <https://doi.org/10.1093/clinchem/hvab242>
- Doern, C. D., Holfelder, M., Jorgensen, et al.(2015). *Automation and design of the clinical microbiology laboratory. Manual of clinical microbiology* (11th ed., pp. 123-145). American Society for Microbiology Press. <https://doi.org/10.1128/9781555817381.ch5>
- Babady, N. E., Bourassa, L., et al. (2021). *Multicenter evaluation of processing and analysis of College of American Pathologists (CAP) proficiency testing samples by laboratory automation*. Journal of Clinical Microbiology, 59(5), e03233-20. <https://doi.org/10.1128/JCM.03233-20>
- Kritikos, A., Croxatto, A., et al. (2022). *Current state of laboratory automation in clinical microbiology laboratory*. Clinical Chemistry, 68(1), 99-114. <https://doi.org/10.1093/clinchem/hvab242>
- Cherkaoui, A., Renzi, G., et al. (2019). *Copan WASPLab automation significantly reduces incubation times and allows earlier culture readings*. Clinical Microbiology and Infection, 25(10), 1430.e5-1430.e12. <https://doi.org/10.1016/j.cmi.2019.04.001>
- Bota, M. (2024). *Enhancing microbiology laboratory organisation: First WASPLab installation in Romania*. Poster presented at the European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Barcelona, Spain.
- Lee, T.-F., Hung, M.-H., et al. (2024). *The impact of comprehensive laboratory automation on workflow efficiency and turnaround time in the analysis of positive blood cultures and urine cultures in Taiwan*. Poster presented at the European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Barcelona, Spain.
- Gaskin, M., Yamamura, D., et al. (2019). *Validation and implementation of Colorex™ CHROMagar™ Strep A agar on WASP™/WASPLab™ for screening for Streptococcus pyogenes using the ESwab™*. Poster presented at the American Society for Microbiology (ASM) Annual Meeting, San Francisco, CA.
- Bryant, K., et al. (2024). *Reduced culture incubation times using the Copan WASPLab*. Poster presented at the Southwest Association for Clinical Microbiology (SWACM) Annual Meeting, Nashville, TN.
- Faron, M. L., Buchan, B. W., et al. (2016). *Automatic digital analysis of chromogenic media for vancomycin-resistant enterococcus screens using Copan WASPLab*. Journal of Clinical Microbiology, 54(10), 2464-2469. <https://doi.org/10.1128/JCM.01040-16>
- Faron, M. L., Buchan, B. W., et al. (2020). *Evaluation of the WASPLab segregation software to automatically analyze urine cultures using routine blood and MacConkey agars*. Journal of Clinical Microbiology, 58(4), e01683-19. <https://doi.org/10.1128/JCM.01683-19>
- Davidson, R. J., Porter, C., et al. (2024). *Artificial intelligence (AI) for use with identifying urine culture results that can be automatically released to the patient’s records without staff intervention*. Poster presented at the American Society for Microbiology (ASM) Annual Meeting, San Francisco, CA.
- Cherkaoui, A., Renzi, G., et al. (2024). *Evaluation of PhenoMATRIX™ and PhenoMATRIX PLUS™ for the screening of MRSA from nasal and inguinal-perineal swabs using chromogenic media*. Journal of Clinical Microbiology, 62(1), e01152-23. <https://doi.org/10.1128/jcm.01152-23>
- Rovira-Plujà, J., Bernat-Solé, M., et al. (2024). *How could total laboratory automation and artificial intelligence improve urine culture management in clinical microbiology?* Poster presented at the European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Barcelona, Spain.
- Dauwalder, O., Michel, A., et al. (2021). *Use of artificial intelligence for tailored routine urine analyses*. Clinical Microbiology and Infection, 27(11), 1168.e1-1168.e6. <https://doi.org/10.1016/j.cmi.2020.09.056>
- Rovira-Plujà, J., Vicente-Ciurans, M., et al. (2024). *Evaluation of VITEK MS Prime bacterial identification performance in conjunction with a fully automated slide preparation system in urine cultures*. Poster presented at the European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Barcelona, Spain.
- Roché, A., Teissier, G., et al. (2020). *PhenoMATRIX TAG and Colibri for a faster workflow of the management of urine specimens*. Poster presented at the European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Paris, France.
- Rovira-Plujà, J., Vicente-Ciurans, M., et al. (2024). *Evaluation of VITEK MS Prime bacterial identification performance in conjunction with a fully automated slide preparation system in urine cultures*. Poster presented at the European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Barcelona, Spain.
- Vanstokstraeten, R., Emmerechts, K., et al. (2024). *Validation of commercial automated bacterial suspension preparation and plate streaking for antibiotic disk diffusion susceptibility testing*. Poster presented at the European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), Barcelona, Spain.
- Cherkaoui, A., Riat, A., et al. (2023). *Diagnostic test accuracy of an automated device for the MALDI target preparation for microbial identification*. European Journal of Clinical Microbiology & Infectious Diseases, 42(1), 153-159. <https://doi.org/10.1007/s10096-022-04531-3>
- Heesteremans, R., Herroelen, P., et al. (2022). *Validation of the Colibri instrument for automated preparation of MALDI-TOF MS targets for yeast identification*. Journal of Clinical Microbiology, 60(7), e00237-22. <https://doi.org/10.1128/jcm.00237-22>
- Bielli, A., Lepera, V., et al. (2019). *Copan Colibri™: An innovative fully automated instrument for the clinical microbiology laboratory*. Poster presented at the American Society for Microbiology (ASM) Annual Meeting, Washington, DC.
- Pham, M. L., Van Horn, K., et al. (2024). *A multicenter evaluation of Copan’s Colibri™, an automated instrument for MALDI TOF MS target application for bacterial identification*. Diagnostic Microbiology and Infectious Disease, 108(1), 116098. <https://doi.org/10.1016/j.diagmicrobio.2023.116098>
- Copan WASP S.r.l. (2023). *510(k) substantial equivalence determination decision summary: Colibri™ for use with the Beckman Coulter MicroScan WalkAway AST system*. Food and Drug Administration (FDA), K232756.
- Copan WASP S.r.l. (2023). *510(k) substantial equivalence determination decision summary: Colibri™ system for microbial identification using MALDI-TOF MS*. Food and Drug Administration (FDA), K193138.
- Hombach, M., Jetter, M., et al. (2017). *Fully automated disc diffusion for rapid antibiotic susceptibility test results: A proof-of-principle study*. Journal of Antimicrobial Chemotherapy, 72(6), 1659-1668. <https://doi.org/10.1093/jac/dkx026>
- Hombach, M., Bodendoerfer, E., et al. (2020). *Evaluation of standardized automated rapid antimicrobial susceptibility testing of Enterobacterales-containing blood cultures: A proof-of-principle study*. Journal of Antimicrobial Chemotherapy, 75(11), 3218–3229. <https://doi.org/10.1093/jac/dkaa336>
- Herroelen, P. H., Heesteremans, R., et al. (2022). *Validation of rapid antimicrobial susceptibility testing directly from blood cultures using WASPLab®, including Colibri™ and Radian® in-line carousel*. European Journal of Clinical Microbiology & Infectious Diseases, 41(5), 733–739. <https://doi.org/10.1007/s10096-022-04421-8>
- Hombach, M., Jetter, M., et al. (2017). *Rapid detection of ESBL, carbapenemases, MRSA, and other important resistance phenotypes within 6-8 hours by automated disc diffusion antibiotic susceptibility testing*. Journal of Antimicrobial Chemotherapy, 72(11), 3063-3069. <https://doi.org/10.1093/jac/dkx256>
- Hombach, M., Jetter, M., et al. (2018). *Rapid disc diffusion antibiotic susceptibility testing for Pseudomonas aeruginosa, Acinetobacter baumannii, and Enterococcus spp*. Journal of Antimicrobial Chemotherapy, 73(2), 385-391. <https://doi.org/10.1093/jac/dkx404>
- Cherkaoui, A., Renzi, G., et al. (2021). *Performance of fully automated antimicrobial disk diffusion susceptibility testing using Copan WASP Colibri coupled to the Radian in-line carousel and expert system*. Journal of Clinical Microbiology, 59(9), e00777-21. <https://doi.org/10.1128/JCM.00777-21>
- Cherkaoui, A., Schorderet, D., et al. (2022). *Fully automated EUCAST rapid antimicrobial susceptibility testing (RAST) from positive blood cultures: Diagnostic accuracy and implementation*. Journal of Clinical Microbiology, 60(10), e00898-22. <https://doi.org/10.1128/jcm.00898-22>
- Cherkaoui, A., Renzi, G., et al. (2020). *Comparison of the Copan WASPLab incorporating the BioRad expert system against the SIRScan 2000 automatic for routine antimicrobial disc diffusion susceptibility testing*. Clinical Microbiology and Infection, 26(5), 619-625. <https://doi.org/10.1016/j.cmi.2019.11.008>
- Zemba, J., Sharp, S., et al. (2024). *Automated disk diffusion compared to standard manual testing: Radian AST system with WASPLab and Colibri*. Poster presented at the American Society for Microbiology (ASM) Microbe Meeting, Atlanta, GA.
- Lack of Trained Laboratory Personnel Makes Automation Critical. <https://perkinelmer-appliedgenomics.com/2020/04/20/the-laboratory-workforce-is-shrinking/>

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