AUTOMATED SPECIMEN PROCESSING AND DIGITAL MICROBIOLOGY
WASP® uses traditional, reusable metal loops ranging in size from 1 µL, 10 µL and 30 µL, allowing users to plant a variety of samples and volumes. Other automated systems use disposable pipet tips which cannot transfer volumes less than 10 µL.

Classic streaking patterns with reusable loops: Minimize disposable cost per sample. No staff retraining.

Automatic Gram slide preparation including permanent inkjet labeling directly onto the glass slide.

Automatic broth inoculation and labeling of tubes: No manual pre-labeling required.

Automatic loop check guarantees delivery of sample onto culture plate, as well as the integrity and accuracy of the loop.

Reduce repetitive stress: WASP® automatically opens and closes most specimen container types.

Automatic Kirby Bauer and ID disk application.

WASP® uses a liquid based approach, transforming samples to liquid for automatic processing. Additionally, WASP® can be programmed to process standard swabs and solid samples with minimal manual interaction.

WASP® manages all specimen types without batching: Continuous feeding of any sample type and automatic loop and tool change station mean longer walk away time and less user intervention.

No cross contamination: WASP® processes samples individually, no racks or open containers.

WASP®, WALK-AWAY SPECIMEN PROCESSOR is a total solution for pre-analytical Microbiology specimen processing. WASP® is the only instrument on the market that addresses all aspects of automated Microbiology specimen processing:

- Planting and Streaking
- Gram Slide Preparation with Automatic Inkjet Label Printing
- Enrichment Broth Inoculation
- Kirby Bauer and ID Disk Application

By maintaining a close relationship with the Microbiology community, COPAN continues to make innovative strides, and has designed WASP® as an open platform, modular instrument for the seamless addition of new features and capabilities.
WASPLAB™, a sophisticated barcode-driven microbiology specimen processor and work-up system, connects with WASP® using a conveyor track. WASPLab™ moves samples from front end processing to full specimen management, automated incubation, and digital Microbiology. With its modular design and small footprint, WASPLab™ can be customized to the unique needs of the lab. The robotic plate management system, smart incubators, and state-of-the-art image acquisition technology, are changing the way labs work and opening the door for groundbreaking digital Microbiology.

**WASPLAB™ COMPONENTS**

1. Smart Incubators
   - Plate Capacity: 1,708 (Double), 854 (Single)

2. Custom Conveyor Track System

3. Work-up Canisters for Culture Plates

4. Image Acquisition Station

5. WASP®: Walk-Away Specimen Processor
CUSTOM TRACK SYSTEM ENSURES FLEXIBILITY AND A SMALL FOOTPRINT

- WASP® Lab™ is customized for each lab, using flexible conveyors that are designed to fit any lab, regardless of space restrictions, so there is no need to demolish your current laboratory space.
- Plates travel automatically from the WASP® to the smart incubators on the track.
- Manually loaded plates can be placed onto the track for image acquisition and incubation.

COMPACT, HIGH EFFICIENCY SMART INCUBATORS

- Depending on user defined protocols, smart incubators can automatically invert each plate prior to incubation preventing condensation from falling onto the media.
- Every plate is assigned a unique location, based on barcode, allowing for random and rapid retrieval.
- Incubator shelves ensure homogeneous environmental conditions and excellent thermal conductivity to bring plates up to the appropriate temperature and atmospheric conditions quickly and efficiently.
- Compact incubator shelves are easily removed and autoclaved to maintain the most sanitary conditions. Easy to clean!
- Single incubators hold 854 plates and double incubators hold 1,708 plates.

SCALABLE WORK-UP CANISTER SYSTEM

- Plates are automatically sent from incubators into easy-to-remove canisters for further work-up at the direction of laboratory staff.
- Convenient work-up canisters can be designated for a particular specimen type or by operator for optimal workflow.
- The canister system gives labs the flexibility to grow and add more stations without having to add additional conveyor track.
THE WASPLAB™ IMAGE ACQUISITION TECHNOLOGY uses a highly sophisticated lighting and camera system so that each plate photo is clear and accurate. It’s like using a plate microscope with every plate, allowing you to make the most accurate work-up decision.

THREE LIGHTING SYSTEMS TO COLLECT OPTIMAL PLATE IMAGES

Not all plated media is the same. The WASPLab™ Image Acquisition system uses different lighting for photography depending on the media color or opacity:

- Top light with background — Bench view, transparent agar
- Top light no background — Bench view, opaque agar
- Bottom light no background — Simulates holding to the light to see hemolysis

COMPOSITE IMAGE

The WASPLab™ Trilinear Camera sensor acquires the plate image slice by slice as the plate sweeps laterally beneath the camera in the plate shuttle carrier. Four thousand slices are captured and merged together to form a single 27 megapixel image of the 100mm plate.

27 MEGAPIXEL, LARGER THAN LIFE IMAGES

Plate photos taken with WASPLab™ Image Acquisition cameras are so sharp that only a plate microscope can boast such high resolution and clarity. Each photo is 27 Megapixels, comprising of layered red, green and blue colors creating a bright vivid image. The WASPLab™ software can detect and differentiate colonies as small as 0.1 mm in diameter and present images to the operator.

In addition to the sharpest image in the industry, the WASPLab™ camera optics have an enormous 9mm depth of field, ensuring that both small, low colonies and large, high colonies are always in focus, so you will not miss discrete growth of a pathogen.

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LIGHTING ILLUSTRATION

Front Light
White Panel
Back Light

MICROBIOLOGY IN A DIGITAL AGE

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IN A DIGITAL AGE

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Plate photo taken with professional Nikon D300S in raw format processed and cropped to 4200px by 3900px @ 300DPI for an image file size of 49.3MB.

Plate photo using WASPLab™ Trilinear Camera, telecentric optics, 27 megapixel plate image.
Individual dashboards show the operator the workload for the shift: what has been done and what needs to be done.

Administrator dashboards provide real time snapshots of the laboratory workload and allow managers to reallocate the workload to prevent bottlenecks.

Key performance indicators and efficiency levels can be easily measured using the dashboards.

Incubation protocols can be set to scan and automatically record images as often as needed. Early scans of sterile body or joint fluids may allow for faster detection of growth and early intervention in patient treatment.

All plate images are presented to the technologist for review at the screening station. Images can be grouped based on colony counts from most growth to no growth or vice versa.

Plate images requiring further investigation are sent to the reading station. Users may zoom in to scrutinize and tag colonies creating work-up tickets for tasks such as AST, ID’s, Subculture, Gram Stain, or Spot Biochemical tests.

User-defined Presumptive ID’s are assigned to each tagged colony.

Plates are then automatically sent to a designated work-up canister for picking.

After scanning the barcode at the picking station, a plate image is automatically loaded with all digitally tagged colonies and Presumptive ID’s.

Users can also view a digital image of the Gram stain along with the plate image and work-up ticket.

After picking is complete, operators acknowledge that they have completed the tasks requested by the Readers, and close out the work-up ticket.

When screening culture plates the operator can use the toggle buttons to quickly go back and forth and review and compare growth on the same culture plate at different incubation time points.
STREAMLINED URINE CULTURE PROCESSING REDUCES TURNAROUND TIME!

**SCREEN**

Using WASPLab™ advanced colony count estimation software, urine plates are pre-sorted based upon pre-determined CFU counts. Plates are presented to the user, sorted by most growth to least. In the Screening Page, users may result no growths immediately with JUST ONE CLICK.

Screeners can zoom to scrutinize growth patterns and quickly discard insignificant cultures, no significant growths, or skin contaminants so that only plates with significant growth are sent for further reading and testing.

**READ**

At the Reading Station, operators can easily zoom in to scrutinize and tag colonies creating work-up tickets for user defined tasks such as AST or MALDI.

Plates are then automatically sent to a designated work-up canister for picking.

**PICK**

Users pull their work-up plates from the work-up canister station and bring them to the picking station.

After scanning the barcode at the picking station, a plate image is automatically loaded with all digitally tagged colonies and Presumptive ID’s.

After picking is complete, operators acknowledge that they have completed the tasks requested by the readers, and close out the work-up ticket.
THE CENTERPIECE OF YOUR FULL LABORATORY AUTOMATION SOLUTION
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™:**

- **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:** CO₂ and Aerobic
- **Capacity Single:** 854 plates
- **Capacity Double:** 1,708 plates
- **Electrical Receptacle Plug:** HBL2321 250V / 20A (for USA and Canada)

**IMAGE ANALYSIS AND DIGITAL MICROBIOLOGY**

- Zero hour reading of each culture plate allows for comparative differential analysis
- Users can view Gram slide images on screen beside the plate image
- Incubation protocols determine scan times
- Image Analysis consists of: Screening, Reading and Picking

**INTERPRETATION WORKSTATION**

- Consists of PC, monitor, keyboard
- Screening: Operator chooses plates with growth for further analysis.
- Reading: Operators assign presumptive ID and further work-up for the picking bench

**PICKING/WORK-UP WORKSTATION**

- Consists of PC, monitor, barcode reader, printer and micro hood
- Picking: Operators perform further plate work for identification or susceptibility

**INTEGRATED GRAM SLIDES**

**WASPLAB™ INTERFACES SEAMLESSLY** with Gram slide photography microscopes to incorporate Gram slide photos into the patient record allowing users to compare plate growth with Gram stains.