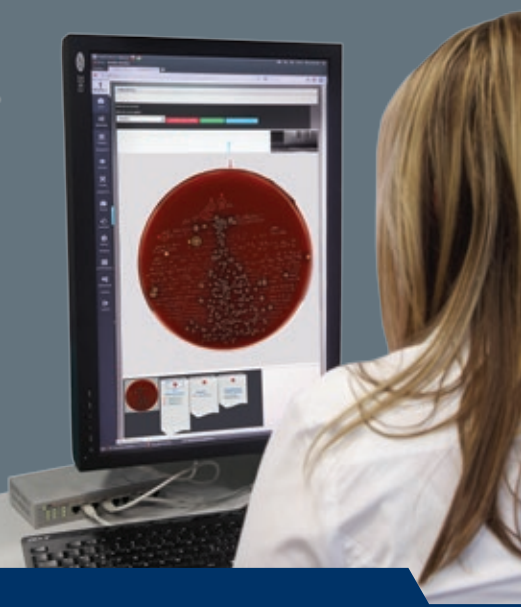
COPAN

Innovating Together™

WASP® DT Daniele Trivia | WASPLab™

REDEFINING THE FUTURE OF AUTOMATED SPECIMEN PROCESSING



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WASP® DT

Daniele Triva

WALK-AWAY SPECIMEN PROCESSOR

REDEFINING THE FUTURE OF AUTOMATED SPECIMEN PROCESSING

What is WASP®DT?

WASP®DT: WALK-AWAY SPECIMEN PROCESSOR is a solution for preanalytical specimen processing in Microbiology. It is an open platform, modular instrument, and the only one in its class which addresses all aspects of automated Microbiology specimen processing: planting and streaking, Gram slide preparation, and enrichment broth inoculation to name a few.

WASP®DT is not a closed box that requires the Microbiology lab to adapt to it. **WASP®DT** is an extension of the laboratory professional. It allows the freedom to walk away from specimen set up and focus on high level tasks. **WASP®DT** is a direct reflection of what we stand for at COPAN: Innovating Together.

Innovating Together

FOR OVER 30 YEARS COPAN has had its feet planted in the Microbiology lab and its eyes facing the future. The changes facing Microbiologists, Lab Techs, Doctors, Nurses and Hospital Administration are many, and without the right partner these changes can be overwhelming. The COPAN philosophy is one of collaboration with the community that our products serve in order to maintain the highest level of quality, efficiency and innovation.

Traditional Fiber Wound Swab *Flocked Swab*

Swabs: Past and Present

THE FIRST ACCOUNT of the use of a swab for collecting samples from patients was done so with a fiber wound swab. Until recently, little had been done to improve on what was thought to be working. Enter COPAN, the inventors of the flocked swabs, FLOQSwabs™. In contrast to traditional fiber wound swabs, flocked swabs are created by spraying a carpet of short nylon fiber strands onto the tip of a plastic applicator creating an absorbent layer. The entire sample stays close to the surface for fast and complete elution of the sample when placed in liquid medium or elution buffer. Flocked swabs mean a better sample and have allowed for the automation of some of the more challenging Microbiology samples.

ESwab™ and FecalSwab™

COPAN ESWAB™ AND FECALSWAB™ comprise of a flocked swab and Liquid Amies or Cary-Blair medium. ESwab™ is a multipurpose, open platform collection and preservation system that maintains aerobic, anaerobic and fastidious bacteria for up to 48 hours at refrigerator and room temperature. FecalSwab™ is a universal transport system for enteric diagnostics suited to traditional culture and molecular assays. ESwab™ and FecalSwab™ are the transport swab systems which allow for fully automated specimen processing.

Liquid Based Microbiology (LBM) Philosophy

GONE ARE THE DAYS when specimen processors were expected only to process urine samples! COPAN's liquid based approach transforms solid, semi-solid and viscous samples into a liquid format and allows for the maximum utilization of WASP®DT. With the ability to run almost all specimens that are sent to Microbiology, labs realize a faster return on investment.

COPAN's Liquid Based Microbiology (LBM) line includes ESwab™ for swabs, FecalSwab™ which allows for the quick and easy processing of stool specimens, and SnotBuster™ (SL Solution) for easier sputum processing, as well as a line of enrichment broths which can be processed using automation.

COPAN
Innovating Together™

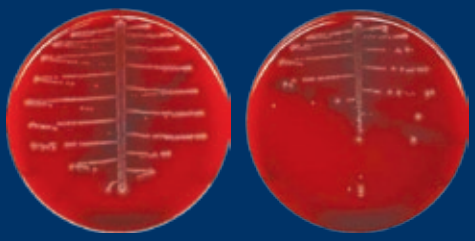
WASP®DT: Walk-Away Specimen Processor

Traditional Reusable Loops. Why Would Anything Else Be Considered?

MICROBIOLOGY LABS have always used traditional loops. Seeing no point in trying to change what has always worked, WASP®DT uses reusable metal loops ranging in size from 1µl, 10µl and 30µl. Other automated systems use pipet tips, which cannot transfer volumes less than 10µl, and the difference is clear.

Automated specimen processors that use a pipetting system can clog when the sample is viscous or has particulate matter.

10^6 Enterococcus + E.coli



10µl: Limited isolated colonies

1µl: Ideal colony isolation

Continuous and random loading

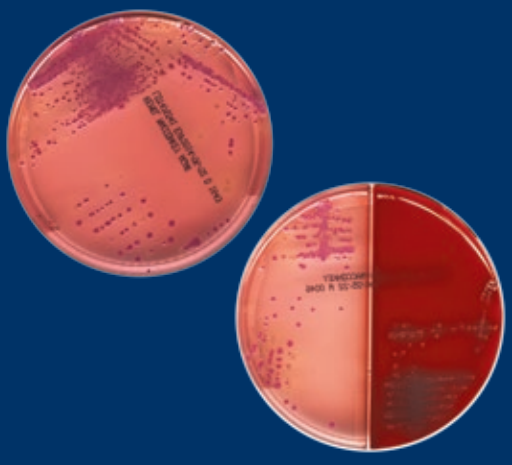
Automatically switch between 1µl, 10µl or 30µl loop

Walk Away System – Really, You Can Walk Away!

WHILE THE SYSTEM IS A LOT OF FUN TO WATCH, the WASP®DT loop and tool change system allows it to automatically switch between 1µl, 10µl or 30µl loop depending on specimen type, without user intervention and increasing walk-away time. Samples can be loaded continually onto the instrument, without batching, and the container grippers and decappers adjust automatically to any specimen container type. All you have to do is load, and walk away!

There's a Reason **They're Called Classic!**

PLANTING AND STREAKING USING AUTOMATION is all about volume and streak pattern. Microbiology lab staff have been reading the same classic streak patterns for years. A different type of pattern caused by an overload of growth from too much sample or a circular streak pattern only means staff retraining. WASP®DT offers a library of classic streak patterns honed by years of expertise in reading plates. But if you've got a unique and special pattern, specific to your lab, don't worry! We can program WASP®DT for custom patterns!



TECHNOLOGICAL INNOVATION is nothing without human collaboration. That's why, from the first prototype to the most recent lab to adopt WASP®DT (over 350 and counting), we've solicited constant input from the Microbiology community. New modules and improvements are a direct result of roots in the Microbiology lab. After all who is more suited to understand the automation needs of the lab than you?

Automatically Open and Close Specimens and Perform all Specimen Processing Tasks in Between

WASP®DT AUTOMATICALLY opens the sample and recaps. In order to minimize user intervention, the WASP®DT is equipped with modules to perform all up front specimen processing including planting and streaking, Gram slide preparation, broth inoculation, Kirby- Bauer and ID disk application.

Freedom to Choose

WASP®DT HAS a nine silo media carousel which can hold any manufacturer's plated media. We are not going to lock you into any one manufacturer's type.

How Do You Know the Sample was Plated?

AUTOMATIC LOOP CHECK GUARANTEES delivery of sample onto the culture plate, as well as the integrity and accuracy of the loop. If the sample is not visible in the loop, WASP®DT makes two more attempts to collect sample and if the quantity is insufficient, the sample is sent to a rejection bin making QNS samples easy to find.

Standard Swabs and Solid Samples

WHILE WE STRIVE for a liquid based specimen approach in the Microbiology lab with products like ESwab™, Snot Buster and FecalSwab™, we know that sometimes solid samples and wound swabs can't be avoided. WASP®DT is easily programmed to handle these with minimal interaction using the Streak Only Mode.

Targeted HEPA Filter System

Speaking of Air

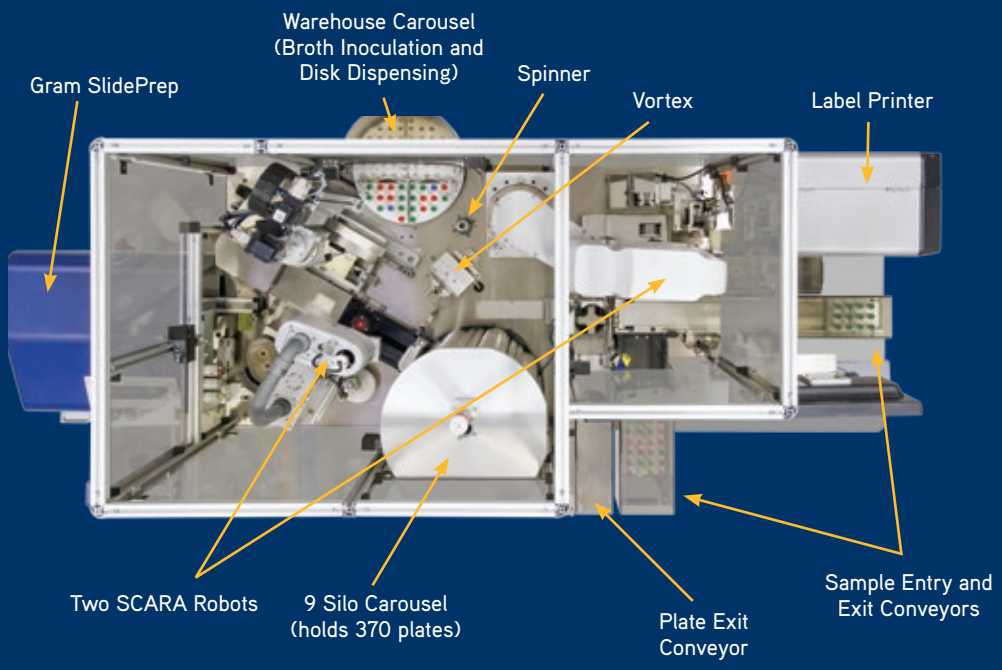
DID YOU KNOW that WASP®DT does not use air compressors and is completely electric? This allows WASP®DT to perform more precise movements, reduces the size and footprint required from the laboratory, and also offers a much quieter solution compared to the bulky, loud air compressors.

WASP®DT Offers a Targeted HEPA Filter System

- Clean Work Environment & Highest Level of Safety
- HEPA filtration continuously circulates clean air within the operational work environment
- Clean air enters, circulates, and floods key operational sites, such as planting and streaking
- Return stations are strategically positioned to complete the circular airflow

Standard Linear Bench Top Design and Individual Specimen Handling

THE WASP®DT IS DESIGNED like a standard Microbiology bench. To eliminate the risk of cross contamination, specimens are handled one at a time and there are no racks of open containers.



BY MAINTAINING A CLOSE RELATIONSHIP with the Microbiology community, COPAN continues to make innovative strides and has designed WASP®DT as an open platform, modular instrument for the seamless addition of new features and capabilities.

A TOTAL SOLUTION FOR PRE-ANALYTICAL MICROBIOLOGY SPECIMEN PROCESSING.

WASPLab™

AUTOMATED SPECIMEN PROCESSING
AND DIGITAL MICROBIOLOGY

SMALL FOOTPRINT • HIGH EFFICIENCY • MODULAR • SCALABLE • AFFORDABLE

What is WASPLab™?

WASPLAB™, A SOPHISTICATED BARCODE DRIVEN MICROBIOLOGY SPECIMEN PROCESSOR AND WORK-UP SYSTEM, connects with WASP®DT 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.

FROM FRONT END ROBOTIC SPECIMEN PROCESSING TO FULL LAB AUTOMATION AND DIGITAL REPORTING:

WASPLAB™ TAKES YOU THERE!

WASPLab™

Your Lab is Unique – So is Your WASPLab™

WASPLAB™ IS CUSTOMIZED for each lab, using flexible, customized 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®DT to the smart incubators on the track and offline plates can be placed onto the manual loading carousel, which enters them into the system for image acquisition and in some cases incubation.

Scalable Work-Up Canister System

WALLS ARE GOOD FOR PRIVACY, but not for flexibility! Rather than create barriers in the lab by running unnecessary conveyor track, plates are automatically sent from incubators into easy-to-remove canisters for further work-up at the direction of laboratory staff.

The canister system gives labs the flexibility to grow and change, adding more stations without having to add additional conveyor track.

But, if you want conveyor track all the way to your work benches we can do that too.

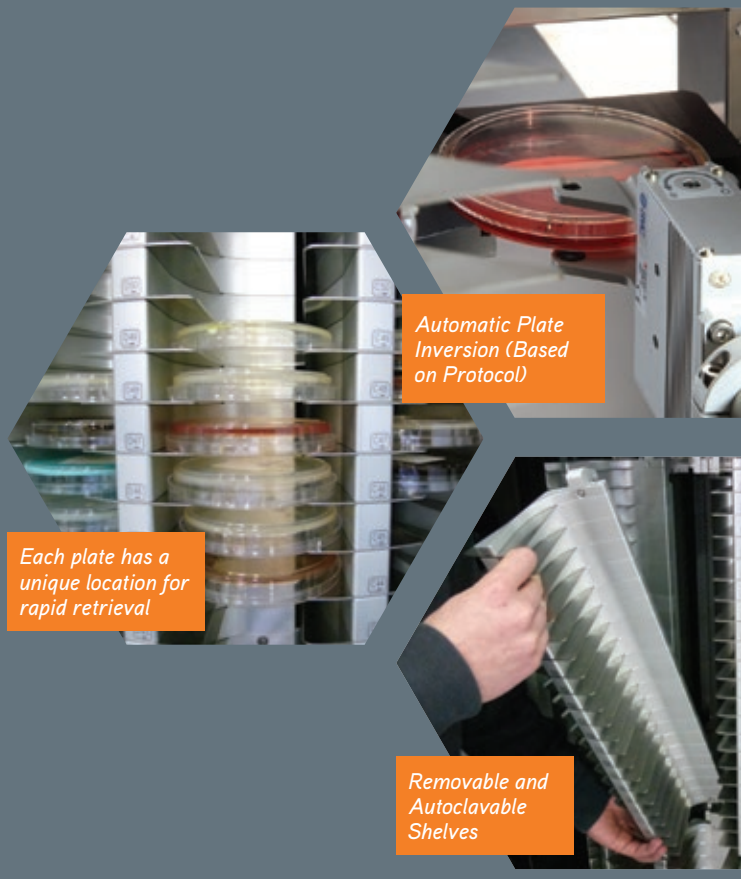
A COMPACT, EFFICIENT SYSTEM THAT HELPS MICROBIOLOGISTS DELIVER THE FASTEST RESULTS

WASPLAB™ WAS A NATURAL PROGRESSION in COPAN's vision for automation. COPAN's philosophy for automation is to create open solutions that are modular and scalable. COPAN delivers automation solutions that mimic what is currently done in Microbiology and helps Microbiologists work better.

How Smart are the WASPLab™ Smart Incubators?

So Smart that they will Shorten Turnaround Time in the Lab!

INDIVIDUAL PLATE SHELVES ensure homogeneous environmental conditions and excellent thermal conductivity to bring plates up to the appropriate temperature and atmospheric condition quickly and efficiently. Many WASPLab™ users have validated the reading of plates earlier, improving turnaround time by delivering actionable results faster and within the therapeutic window.



Automatic Plate Inversion (Based on Protocol)

Each plate has a unique location for rapid retrieval

Removable and Autoclavable Shelves

Plates Can be Incubated

Media Side Up or Down

DEPENDING ON THE LABORATORY WORK PROTOCOL, smart incubators can automatically invert each plate prior to incubation, preventing condensation from falling onto the media. If you need the plate right side up, WASPLab™ can do that too.

Easy To Clean

COMPACT INCUBATOR SHELVES are easily removed and autoclaved to maintain the most sanitary conditions.

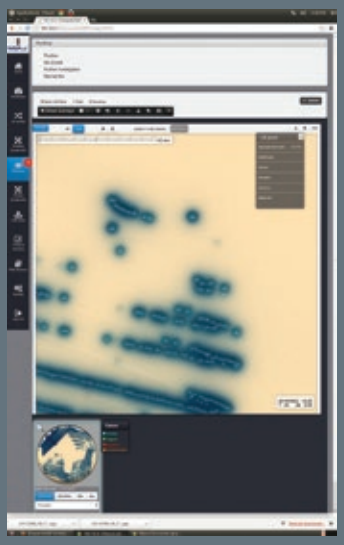
High Capacity

SINGLE INCUBATOR CAPACITY: 854 plates
DOUBLE INCUBATOR CAPACITY: 1,708 plates

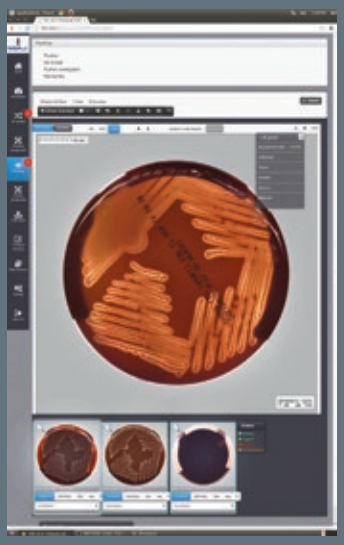
Microbiology in a Digitial Age

Three Lighting Systems to Collect Optimal Plate Images

NOT ALL PLATED MEDIA IS THE SAME. The WASPLab™ Image Acquisition system uses different lighting for image capture depending on the media type, color or opacity.

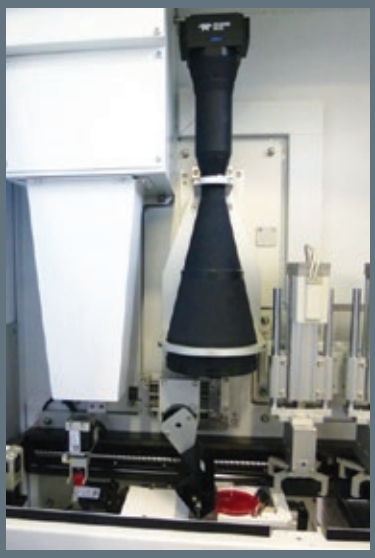


Top light no background —Bench view, opaque agar



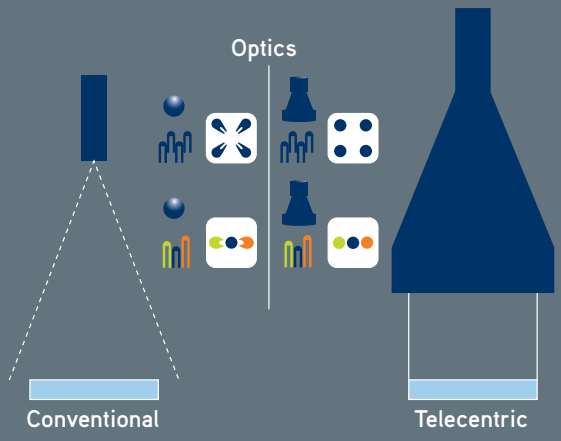
Bottom light no background— Simulates holding to the light to see hemolysis

Top light with background — Bench view, transparent agar



An Image This Important Must Be Undistorted

The telecentric lens uses constant magnification; eliminating perspective angle error, so that the image on the screen is true to life with no distortion. This critical feature enables the precise location and picking of colonies using the original image.

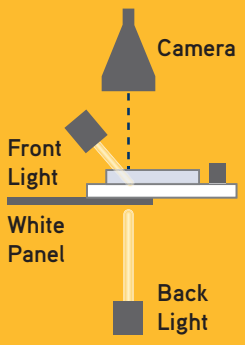


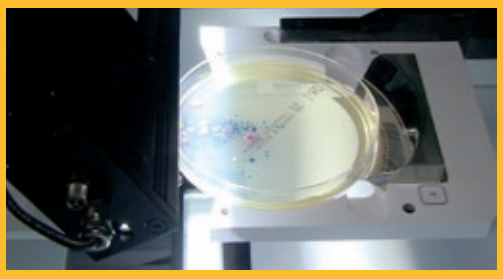
THE WASPLAB™ IMAGE ACQUISITION TECHNOLOGY uses a highly sophisticated lighting and camera system so that each plate image is clear and accurate. It's like using a plate microscope with every plate, allowing you to make the most accurate work-up decision.

27 MegaPixel, Larger than Life Images

IN ADDITION TO THE SHARPEST IMAGE in the industry and colony detection for colonies as small as 0.1 mm in diameter, the WASPLab™ camera optics have an enormous 9mm depth of field. This means that both small, low colonies and large, high colonies are always in focus, so you will not miss discrete growth of a pathogen.

Lighting Illustration

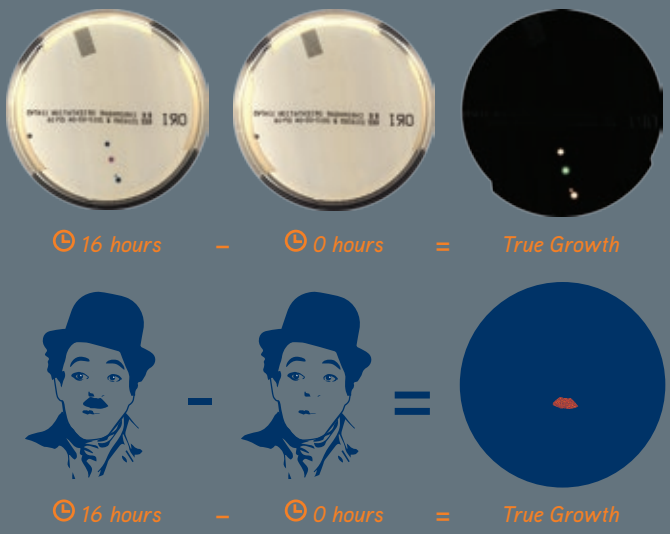


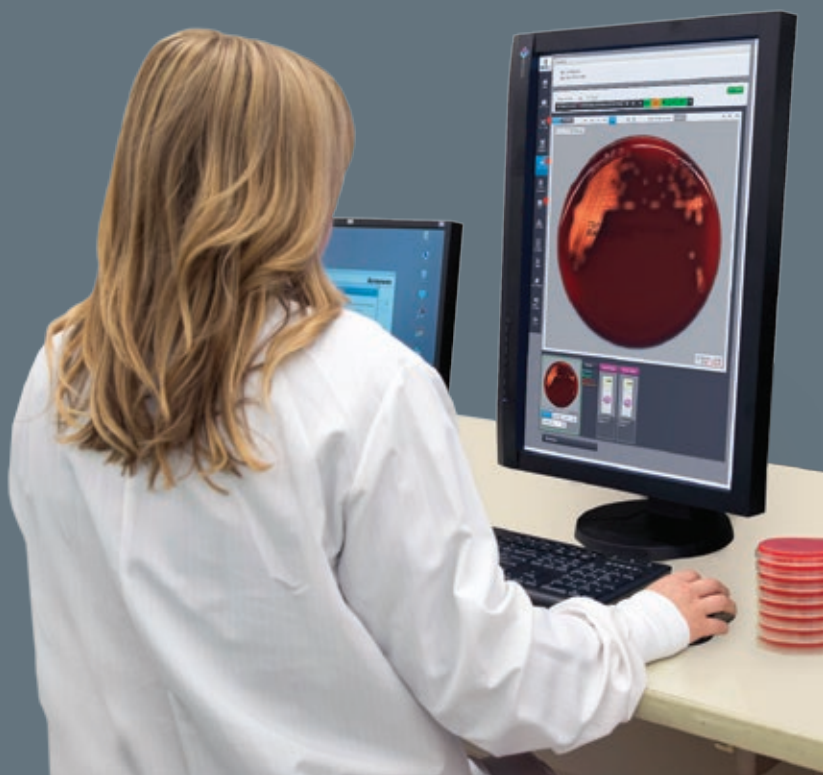


Unique Comparative Differential Image Analysis for the Most Precise Reading

A CRITICAL TIME ZERO READING OF EVERY CULTURE PLATE is recorded in order to identify and eliminate any existing artifacts associated with each media plate.

Time zero is crucial to true comparative differential image analysis, allowing the software to ignore the noise and focus on the growth.



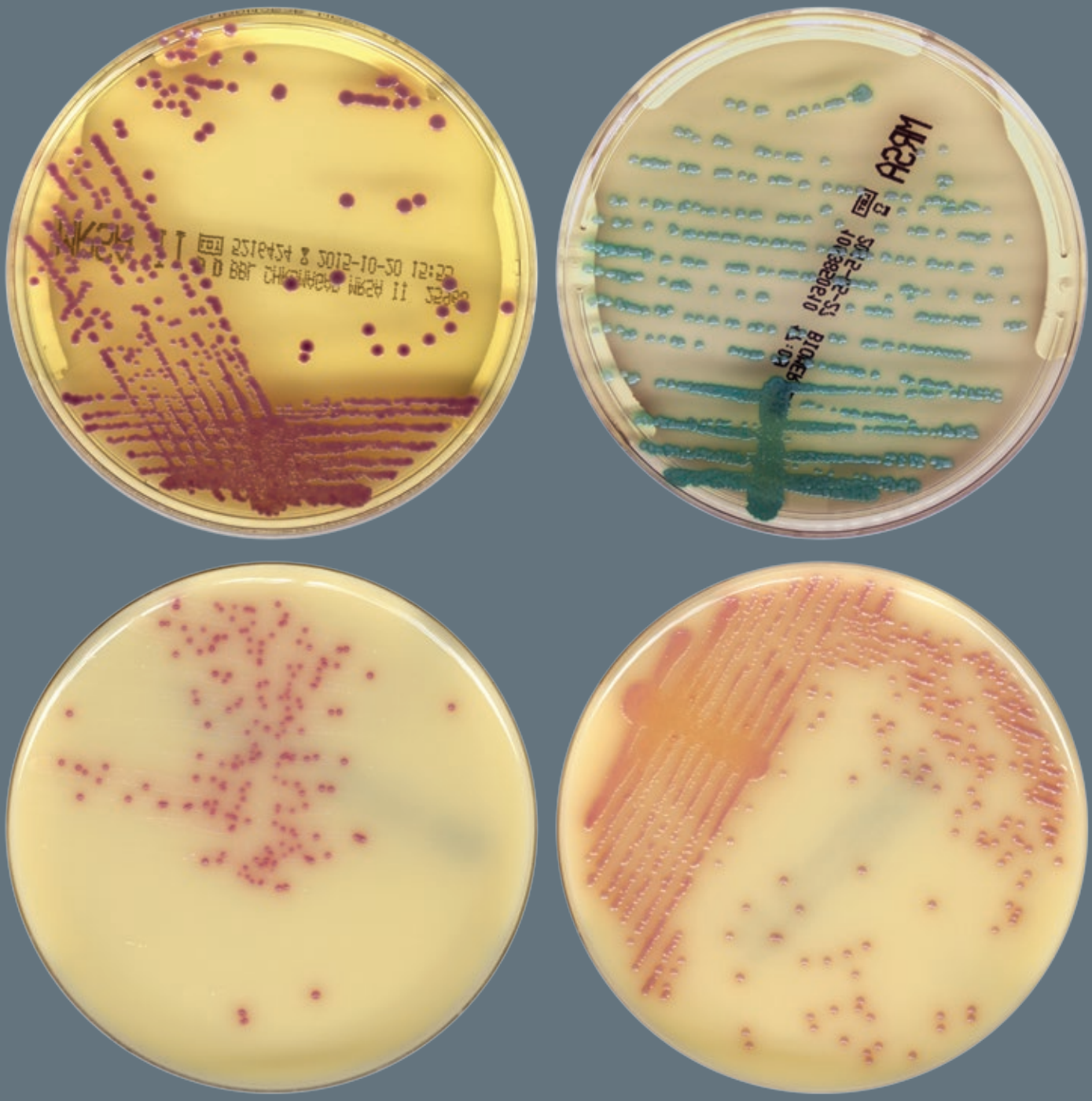


Innovation Backed by Validation

Our Innovation includes sophisticated algorithms, that are changing the way plates are read!

DEMONSTRATED IN A MULTI-CENTER STUDY titled "Automated Scoring of Chromogenic Media for the Detection of MRSA using the WASPLab Image Analysis Software" recently published in the *Journal of Clinical Microbiology*. The study performed by Faron et al (2015) is unique in its class, testing **57,690** samples and demonstrating that the WASPLab™ image analysis software can automatically detect and segregate positive from negative MRSA samples using chromogenic agar with a sensitivity of **100%**, and a specificity of **90-96%** (varying by location). In fact, the software was able to detect an additional **153** positive MRSA patients that were missed by manual reading. Locations of the participating laboratories spanned across the globe including Italy, The Netherlands, Canada, and the United States.

TO READ THE FULL STUDY AND ACCESS AN ENTIRE LIBRARY OF OTHERS LIKE IT, VISIT COPANUSA.COM/EDUCATION/SCIENTIFIC-STUDIES



COPAN's Image Analysis Software Can Automatically Segregate MRSA on Chromogenic Agar.

Better Than the Naked Eye

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

27 MegaPixel, Larger than Life Images

THE 27 MEGAPIXEL RESOLUTION OF PLATE IMAGES acquired using WASPLab™ allows for the most accurate and clear on-screen appearance. Users report finding growth on a digital image that was missed when looking at the actual plate.

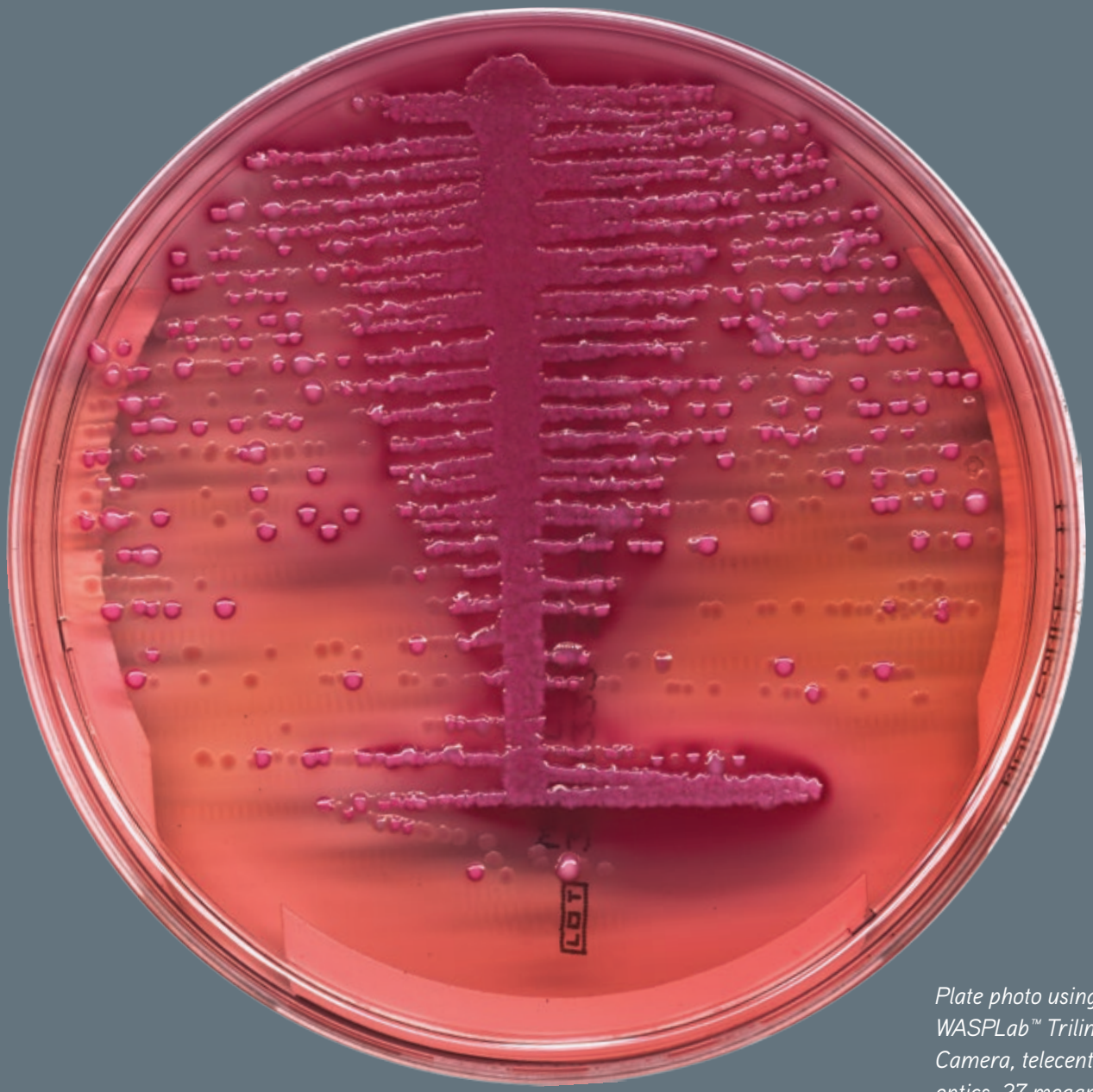
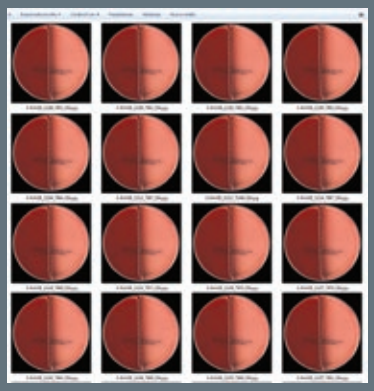


Plate photo using WASPLab™ Trilinear Camera, telecentric optics, 27 megapixel plate image.

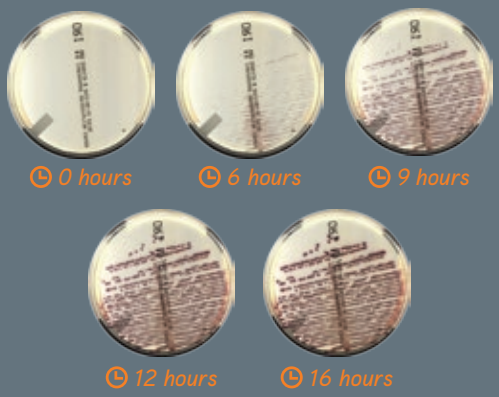
Streamlined Workflow For Faster, More

Screen

- Incubation protocols can be set to scan and record images as determined by the lab.
- Plate images are presented for review at the Screening Station.
- Images may be grouped and sorted based on colony counts, allowing users to result no growths **WITH JUST ONE CLICK!**

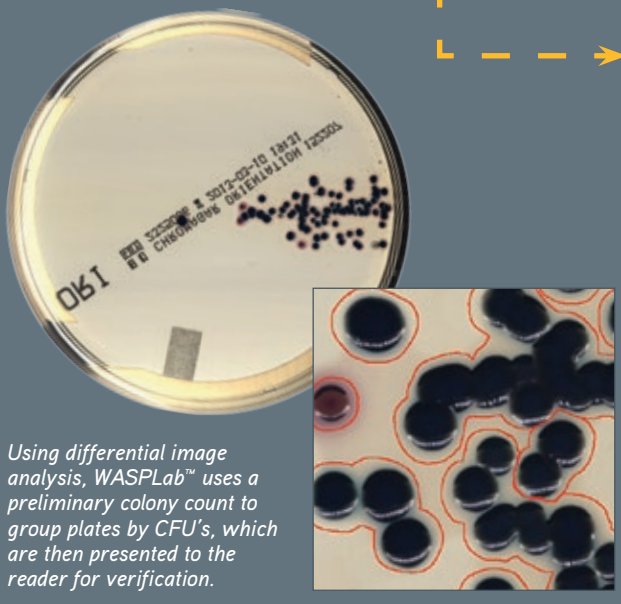


Plates are grouped and presented for review. Cultures with no/no significant growth or skin contaminants can be rapidly resulted, in the screening process.



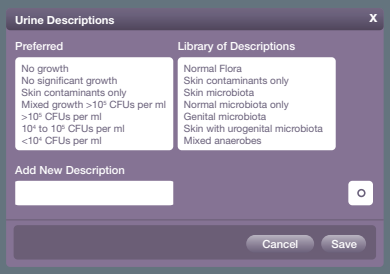
Toggle quickly to review and compare growth on the same culture plate at different incubation time points.

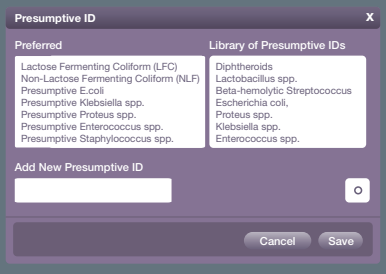
Read



Using differential image analysis, WASPLab™ uses a preliminary colony count to group plates by CFU's, which are then presented to the reader for verification.

- Plate images requiring further investigation are sent to the Reading Station.
- Users can zoom into the images to scrutinize and tag colonies, assigning user defined presumptive ID's.
- Optional Gram stain images are presented with the plate images, allowing for the most accurate picture of the patient condition.
- Work up tickets for tasks such as MALDI-TOF, AST, Subculture, Gram Stain or Spot Biochemical testing are created, and plates are automatically sent to a designated work-up canister.





Example of WASPLab™ user defined drop-down menu which allows users to select from a list of reporting descriptions which can match LIS reporting criteria.

Accurate Patient Results

Pick

- Users obtain plates requiring work-up from the canisters and bring them to the Picking Station
- After scanning the plate barcode, the image is automatically loaded with the digitally tagged colonies and work-up instructions.
- With the optional C-Tracer, users are directed to the exact colony to choose using a laser light.

Report

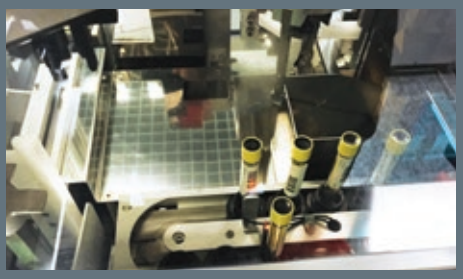
- The WASPLab™ software can send results automatically to the LIS, along with the plate and Gram slide images and Microbiology interpretation of results, allowing point-of-care providers to collaborate with the laboratory, and bringing Microbiology back to the patient bedside!

DIGITAL MICROBIOLOGY ALLOWS LABORATORY PROFESSIONALS TO QUICKLY AND ACCURATELY READ AND SHARE INFORMATION WITH HEALTHCARE PROVIDERS.

COPAN Continues to Innovate Automation

Core Lab Gets on the Same Track!

WASPLAB™ INTEGRATES into core laboratory processing using industry-proven track system for managing specimens. This integration eliminates the need to sort specimens by lab area. The track takes all samples from a centralized receiving area to the correct instrument for processing.

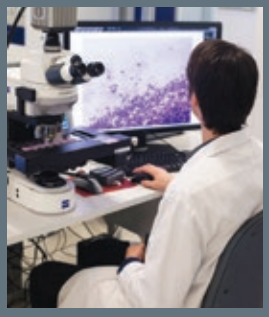


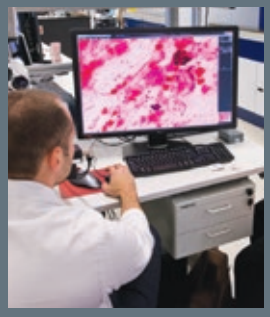
How Track Can End the Need to Batch!

Look forward to the next generation of COPAN Innovation with COPAN's SIR. The SIR or Sample Input Rail, is designed to automatically sort samples coming into the Microbiology laboratory. Simply deposit the samples into the bulk loader and let SIR do the rest.

Integrated Gram Slides

WASPLAB™ INTERFACES seamlessly with Gram slide imaging Zeiss microscopes to incorporate Gram slide photos into the patient record allowing users to compare plate growth with Gram slides for the most accurate view of the patient's condition.





Administrative Dashboards

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 work to prevent bottlenecks.

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

AT COPAN, the words Innovating Together, are not just a tagline. We live for that next "ah ha!" moment and are continually inventing, innovating and improving in order to bring the best products and technology to Preanalytics and Microbiology!

The Newest Addition to the COPAN Automation Family!

Colibrí™

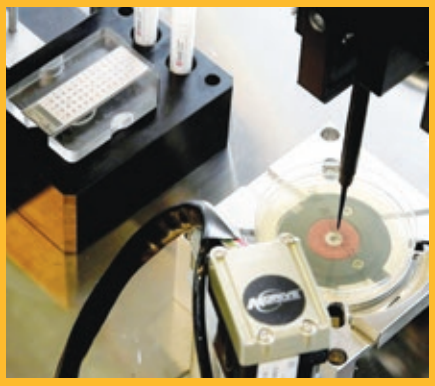
UNIVERSAL COLONY PICKER
FULLY AUTOMATED WORK-UP

COLIBRÍ™ IS AN OPEN PLATFORM SYSTEM, which automatically picks colonies based upon digital coordinates specified by the laboratory technologists reading images in the WASPLab™ software.

- Onboard Nephelometer checks the opacity of suspensions and prepares a purity plate.
- Colibrí™ can work in-line with a WASPLab™ or as a standalone workstation.

MALDI-TOF Seeding

COLIBRÍ™ CAN SEED MALDI-TOF TARGET PLATES and automatically applies the matrix to the plate. The system works with all manufacturers' targets.



Works with a Group or Independently!

COLIBRÍ™ AUTOMATICALLY PICKS COLONIES based upon digital coordinates specified by the laboratory technologists reading images in the WASPLab™ software.

OFFLINE PLATES not managed by the WASPLab™ can be loaded onto the instrument where colonies can be manually designated for picking using an onboard camera and touch screen.

McFarland Suspensions

COLIBRÍ™ SEEDS COLONIES INTO VARIOUS SIZE TUBES AND BOTTLES to prepare McFarland suspensions and applies barcode labels. The onboard Nephelometer automatically checks the opacity of the suspensions and prepares a purity plate to check quality of the culture made in the suspension tube.

The Numbers Don't Lie

WASP® and WASPLab™ are Global!

We have hundreds of placements all over the world demonstrating our modularity, scalability, and universal connection capabilities to integrate with all different types of LIS systems and integrate in all different types of laboratories.

TO LEARN MORE CONTACT YOUR LOCAL REPRESENTATIVE TODAY!

Product Specifications

WASP®DT:

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:	CO_2 and Aerobic
Capacity Single:	854 plates
Capacity Double:	1,708 plates
Electrical Receptacle Plug:	HBL2321 250V / 20A (for USA and Canada)

THE FUTURE IS NOW!

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