

How Can You Improve Your Automated Nucleic Acid Extraction?

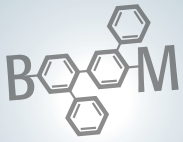


Integrated On-Screen
Verification Mechanisms

Quick Entry Of Sample ID,
Matrix & Volume

On-Screen Monitoring
Of Buffer Volumes

#22



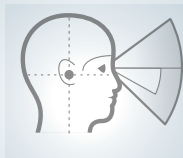
Proprietary Gold-Standard
BOOM® Technology

#13



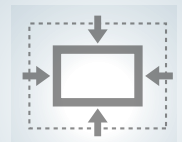
On-Board Sensing Of
Sample Run Disposables

#52



Accessible
Ergonomic Design

#17



Compact
Footprint

#59



Self-Diagnostic

#56



Simplified
Maintenance

#15



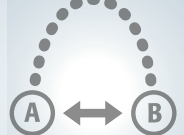
Continuous Laser
Liquid Sensing

#28



Parallel Processing Of Various
Sample Types & Volumes

#51



Simplified Workflow For
Short Learning Curve

#14



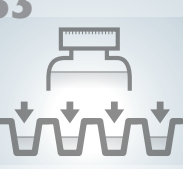
Simplified Mechanics
Minimize Complexity

#46



Intuitive, Icon-Based Touch
Screen Software

#53



Single Set Of Reagents For
All Types Of Samples

#32



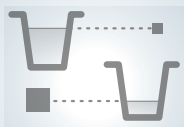
Smart Disposable
Design

#11



Revolutionary Sample
Vessel Design

#27



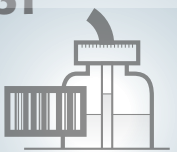
Flexible Elution Volumes
Within A Single Run

#54



Faster Cycle
Times

#31



Barcoded & Monitored
On-Board Reagents

Clear Visual Confirmation
Of Sample Status

Separated Aspiration &
Dispensing Functions

Elate Immediately Ready
For Downstream Use

Processing Of Primary Or
Pre-Lysed Samples

Pull
Port
Sam

#12



1 Tip To 1 Sample Reduces
Risk Of Contamination

#25



Highly Concentrated
Eluate

#38



Vastly Reduced
Plastics Waste

#2

High
Opti

#21



Total NA Extraction
(RNA & DNA)

#16



Integrated Barcode
Scanner

#58



Effortless Setup,
Minimal Hands-On Time

#4

Exte
Capa



Count The Ways.

When bioMérieux set out to design a new automated extraction platform, we took a decidedly novel approach.

We focused on the critical issues for any extraction system: purity and quality, efficient isolation of both RNA and DNA, enhancing nucleic acid concentration, and ease of use.

Then we analyzed the workflow patterns of previous-generation systems and studied the

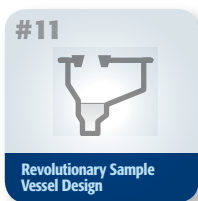
limitations of complex robotic instruments.

We conducted extensive ergonomic studies and gathered input from molecular biology labs.

Where did all of these efforts to rethink automated extraction lead? To one entirely new system: the NucliSENS® easyMAG® – a breakthrough platform specifically optimized for delivering premium quality nucleic acid.



A New Generation Of Automated Nucleic Acid Extraction.



#11
Revolutionary Sample Vessel Design



#15
Continuous Laser Liquid Sensing



#17
Compact Footprint



#14
Simplified Mechanics Minimizes Complexity



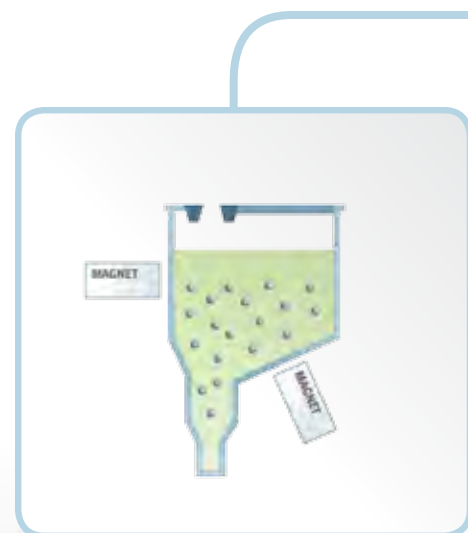
#13
On-Board Sensing Of Sample Run Disposables

Better Extraction, By Design.

The NucliSENS® easyMAG® takes an entirely new approach to the process of nucleic acid extraction – one that's centered around the sample and the user, reducing complexity and eliminating bottlenecks in what is typically the single most labor-intensive part of molecular testing.

As the result of an exceptionally robust design, the entire extraction and purification process takes place in a single well and only one aspiration tip is required per sample. This simplified operation dramatically increases reliability of the procedure.

bioMérieux incorporates a range of safeguards into the easyMAG to ensure optimal system performance. This includes monitoring of on-board extraction reagents, sensing of tips and sample vessels, integrated barcode scanning and continuous laser liquid sensing as well as thorough traceability with process documentation from start to finish.



Step 1: Lysis & Binding

- + Lysis buffer added to sample
- + Introduction of magnetic silica
- + Patented method uses magnet arrays to efficiently manipulate silica*
- + Tapered sample compartment accommodates each step of the extraction process

*U.S. Patent # 6,764,859

Separated Aspiration & Dispensing Functions

#12



1 Tip To 1 Sample Reduces Risk Of Contamination

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Integrated Barcode Scanner

#18

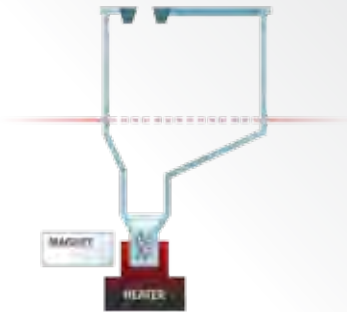


Automated Extraction Process Intelligently Simplified



Step 2: Washing

- + Series of thorough wash steps purifies nucleic acid bound to silica
- + Single dedicated aspiration tip remains in fixed alignment with target well
- + Single-plane movements reduce risk of contamination



Step 3: Elution

- + Mixing of magnetic silica in final buffer combined with heating results in efficient elution
- + Continuous laser liquid sensing assures quality throughout the process



Step 4: Final Purification

- + Removal of magnetic silica
- + Eluate with pure, concentrated nucleic acid
- + Universal extraction protocol includes self-cleaning

High-Affinity Silica
Optimized For RNA & DNA

#31



Barcoded & Monitored
On-Board Reagents

#28



Parallel Processing Of Various
Sample Types & Volumes

#38



Vastly Reduced
Plastics Waste

#27



Flexible Elution Volumes
Within A Single Run

#32



Smart Disposable
Design

Minimize Plastics. Maximize Productivity.

The NucliSENS® easyMAG® smart disposable design completely eliminates the need for multiple racks of disposable tips and sample processing plates. Since the extraction buffers are stable for multiple runs, cumbersome reagent containers are also eliminated.

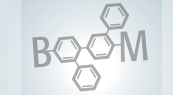
For each cycle, a vastly reduced amount of disposable material is used, so there is significantly less waste and minimal inventory to manage.



Eluate Immediately Ready
For Downstream Use

Complete Sample-To-Result
Traceability

#22



Proprietary Gold-Standard
BOOM® Technology

#44



Extensive Data Storage
Capabilities

#45



Individual Entry Of Elution
Volumes Within Single Run

#25



Highly Concentrated
Eluate

#46



Intuitive, Icon-Based Touch
Screen Software

#43



On-Screen Monitoring
Of Buffer Volumes

#21



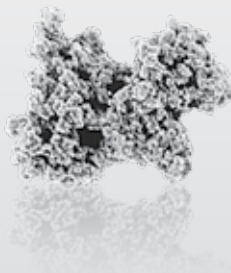
Total NA Extraction
(RNA & DNA)

Enhanced Chemistry, A Better BOOM.®

BOOM® technology, bioMérieux's proprietary process, is a gold standard for the universal extraction of RNA and DNA and it's our in-house expertise of this technology that sets our extraction chemistry apart.

The easyMAG automates an enhanced version of this proven chemistry, offering incredible ease of use and flexibility. Using a single set of reagents, labs can simultaneously process a range of sample volumes and types, as well as specify different elution volumes within a single sample run.

Our high-affinity magnetic silica, combined with further optimization of the extraction buffers, significantly enhances the quality of our industry-leading nucleic acid extraction technology.



Superior User Interface From Start To Finish.

The easyMAG's intuitive, icon-based interface enables lab technologists to quickly and easily set up, operate and validate sample runs.

The touch screen clearly shows the status of samples and disposables, providing visual confirmation before each run. The software also automatically monitors buffer volumes and notifies the user when a new reagent bottle is needed.



Processing Of Primary Or
Pre-Lysed Samples

Pull-Out Work Tray And
Sample Vessel Carrier

#52



Accessible
Ergonomic Design

#59



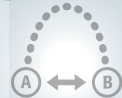
Self-Diagnostic

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Single Set Of Reagents For
All Types Of Samples

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Simplified Workflow For
Short Learning Curve

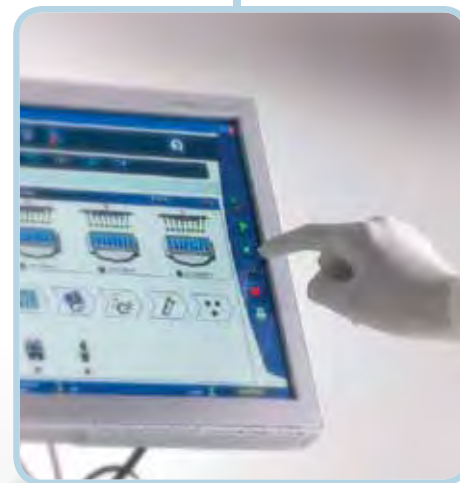
The Result Of True Innovation: Ease Of Use.

The NucliSENS® easyMAG® brings seemingly countless improvements to the lab bench, yielding a more efficient and effective nucleic acid extraction process.

The compact, ergonomic design makes it a good fit in almost any lab situation. On-board reagents and the system's smart disposable design help to streamline workflow and minimize hands-on time. The ability to process various sample volumes and types, as well as select different eluate volumes

within the same run further speeds lab operations. Faster cycle times boost overall productivity – 24 primary samples can be extracted in approximately one hour.

Add accelerated user training and simplified maintenance, and it's clear that easyMAG can get your nucleic acid moving downstream faster than ever.



Step 1: Enter Data

- + Easily enter sample set data
 - Set sample matrix
 - Set sample size
 - Choose elution volume
- + Define order of sample set to create run

On-Board Buffers Stable
Up To 30 Days

#54



Faster Cycle
Times

#58



Effortless Setup,
Minimal Hands-On Time

#56



Simplified
Maintenance

#57



Simplified Workflow For
Ease Of Use



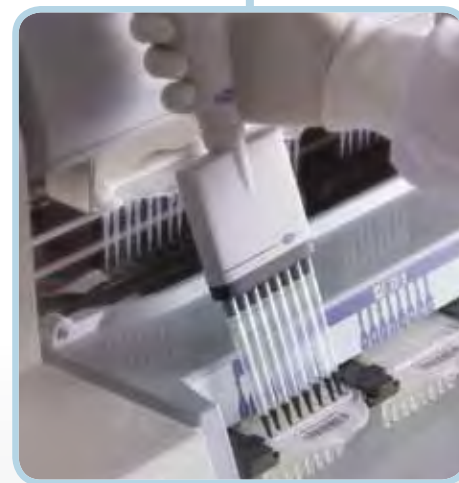
Step 2: Load Samples

- + Load samples into 8-well sample vessels
- + System is compatible with primary or pre-lysed samples
- + Convenient sample vessel carrier supplied with system



Step 3: Load System

- + Insert aspiration tip sets
- + Insert sample vessel strips and scan barcode
- + easyMAG automatically verifies:
 - Sample and tip set insertion
 - On-board reagents



Step 4: Start Run

- + For pre-lysed samples, add silica
- + Start run
- + For primary samples, add silica 10 minutes into run
- + Fast throughput for up to 24 specimens/run; 1 hour for 24 primary samples



Behind Every easyMAG® Is A Great Support Team.

The NucliSENS® easyMAG® evolved from the desire to improve the process of automated nucleic acid extraction. That includes supporting the people who do the extracting.

bioMérieux has established a dedicated team of molecular specialists that will work with you to maximize the efficiency and productivity of your laboratory. This includes customized on- and off-site training, built around the specific needs of your staff.

We also offer a toll-free hotline, staffed by dedicated customer support specialists who can handle everything from questions about the touch screen interface to facilitating reagent orders.

It's all part of creating a platform that does a better job of meeting the demands of molecular diagnostic laboratories and exceeding their expectations.

+ Dedicated Customer Service Specialists

+ Dedicated Molecular Consultants In The Field

+ Multilevel On- & Off-Site Training

+ 24-Hour Support Access

Call

866-365-4204

Visit

www.biomérieux-usa.com/easyMAG

Count The Ways Our Innovations Can Improve
Your Nucleic Acid Applications.



A New Generation Of Automated
Nucleic Acid Extraction.



 **NucliSENS**[™]
— easyMAG

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