

# VERSA 1100 NGS

AUTOMATED LIQUID  
HANDLING WORKSTATION

- Highly versatile/adaptable
- Superior precision, reliability, and quality
- Analyze DNA inputs (Range 4 ng to 8 pg)



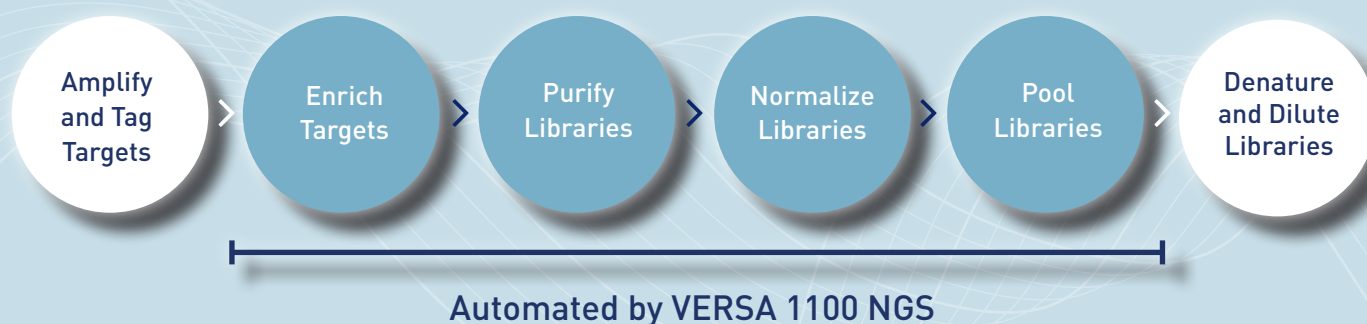


## UP TO 96 SAMPLES IN ONE RUN

Workstation is flexible for enables developing scripts for other targeted sequencing workflow.

Next-generation sequencing (NGS) holds immense promise in forensics, offering unprecedented advantages over traditional methods, but its widespread adoption is hindered by the complex bottleneck of library preparation. Embracing automation solutions in NGS library preparation can overcome these bottlenecks and revolutionize the field. This approach provides consistent and reliable outcomes, reduces error rates, and mitigates contamination risks associated with the manual handling of samples. Moreover, automation optimizes cost efficiency and boosts throughput, enabling forensic laboratories to process a large number of samples effectively.

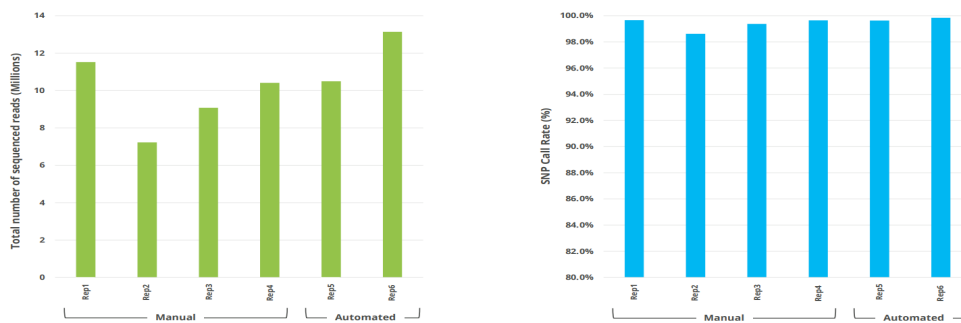
To optimize the benefits of Next-generation sequencing (NGS) in forensic DNA analysis, Aurora Biomed collaborated with Verogen (now a Qiagen company). The study encompasses three distinct internal validation, for each study, customized scripts were developed to automate the ForenSeq Kintelligence Kit, the ForenSeq mtDNA Whole Genome Kit, and the ForenSeq DNA Signature Prep Kit by Aurora Biomed Inc. (Figure 1). As new chemistry advances, the VERSAware Plus makes automation easy with its exceptional versatility. The system's built-in HEPA filtration and optimized liquid transfer ensure precise and reproducible results with minimal risk of cross-contamination.



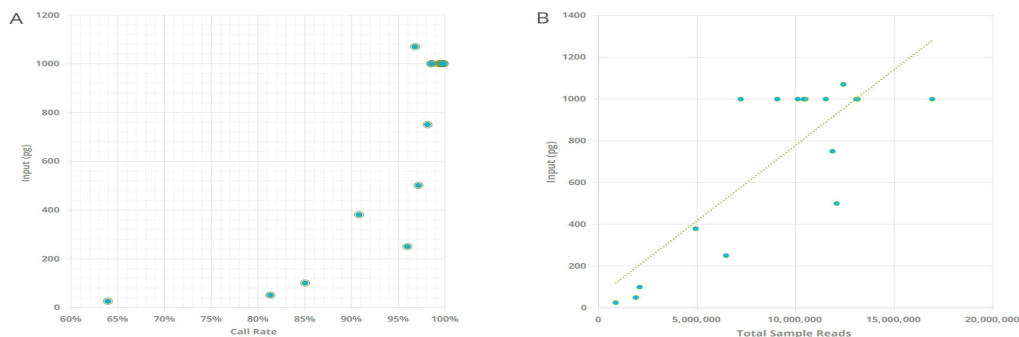
**FIGURE 1.** ForenSeq workflow with the ForenSeq® Kintelligence Kit, ForenSeq® mtDNA Whole Genome Kit, and ForenSeq® DNA Signature Prep Kit workflow with components automated by VERSA NGS

## Validation

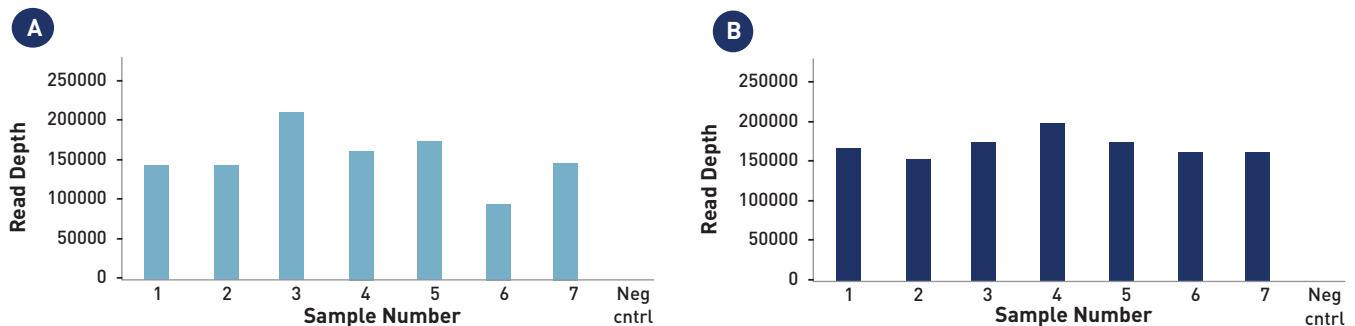
DNA Lab International (Figure 2 & 3) automate Verogen's ForenSeq workflows on VERSA1100 NGS workstation. The sensitivity, reliability, repeatability, concordance, ability to operate with minimal risk to contamination, reproducibility, and accuracy were demonstrated using VERSA 1100.



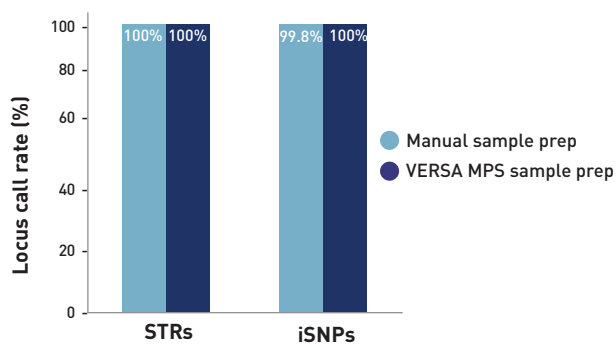
**FIGURE 2: Repeatability and reproducibility studies:** High degree of reproducibility between manual and automated NGS workflows at all DNA inputs was observed.



**FIGURE 3: Sensitivity and stochastic study:** Across all 3 ForenSeq workflows, samples processed manually and those processed using the Aurora VERSA 1100 generated calls that were highly reproducible, irrespective of the amount of input DNA.



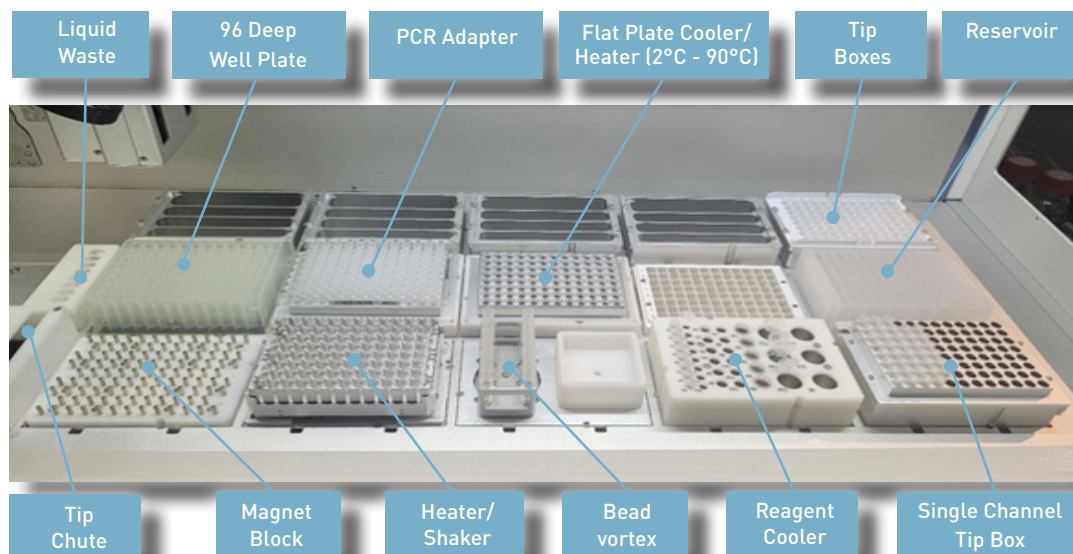
**FIGURE 4. Read depths for (a) manually prepared libraries and (b) automated, VERSA MPS prepared libraries**



**FIGURE 5. Average STR and iSNP locus call rate for ForenSeq™ DNA Signature Prep Kit, for manually prepared libraries vs. VERSA NGS prepared libraries**

Researchers at Hebei Medical University, China, (Figure 4 & 5) employed VERSA NGS to automate the ForenSeq DNA Signature Prep Kit, evaluating its success against manual methods. DNA sequencing libraries were created using both approaches, showing comparable read depths and precision for STR and iSNP markers. This underscores VERSA NGS suitability for ForenSeq library preparation, offering a precise and contamination-free automation solution for forensic labs.

## Deck Layouts



## Features

- **Magnetic Bead Vortex** - ensures homogenous bead suspension
- **ReagentDrop** - provides accurate dispensing of bulk reagents without the use of pipette tips
- **Gripper** - for moving plates or tubes racks to different deck positions
- **UV HEPA Filtered Enclosure** - ensures no free floating DNA, minimizing risk of cross contamination
- Highly accurate **Air Displacement Pipette Technology**
- On deck **Temperature Regulation Modules** for precise temperature control of reagents and samples

**TABLE 1.** VERSA 1100 Specifications

SPECIFICATIONS	Configuration
Syringe Pipettor(Disposable Tips)	8-channel
Reagentdrop Channels (Multiple Reagents)	5 or 8
Liquid-Level Sensing	Optional
Plate Shaker	1
Temperature Regulation Block	2
Reagent Cooling Block	1
Magnetic Block	Included
Plate Gripper	Included
Hepa/ UV/ Fluorescent Light Enclosure	Optional
Length	98.5 cm   38.8 in
Depth	75.2 cm   29.6 in
Height	89 cm   35 in
Weight	162 kg/ 357 lbs
Deck Capacity	15

NOTE: Instrument specifications may change without notice in an ongoing effort of product improvement.

