

# **Verogen PrepStation**

Generate high-quality ForenSeq libraries while minimizing errors and hands-on time.

#### Highlights

- Reduced hands on time Eliminate manual pipetting and bead-based cleanup.
- Growing suite of pre-programmed protocols Qualified and supported ForenSeq workflows.
- Cost Effective High-quality results across batch sizes.

#### Introduction

Next generation sequencing (NGS) enables greater detection power and forensic insights, especially with samples that are degraded, limited or mixtures. The NGS workflow includes the preparation and sequencing of libraries that include small, targeted regions of the genome, such as STRs, SNPs, and mtDNA. Successful sequencing requires careful preparation of high-quality DNA, mtDNA or RNA libraries. Depending on the biomolecule and targets being sequenced, this can be a time-consuming and resource-intensive process. Automating the preparation of NGS libraries can help laboratories reproducibly generate high-quality data that maximizes the benefits of NGS. Automation can also increase the efficiency of the laboratory and help maintain turnaround times, despite expanding sample workloads.

The Verogen PrepStation is a high-precision liquid handler that includes preprogrammed protocols for a growing suite of ForenSeq<sup>®</sup> library preparation kits. Optimized for use with the MiSeq FGx<sup>®</sup> Sequencing System and the



Figure 1: Steps in the ForenSeq workflow that are automated by the Verogen PrepStation.

Universal Analysis Software, this integrated workflow provides cost-effective access for laboratories of all sizes considering automating NGS for forensic applications (Figure 2).

# Enable immediate assay implementation with plug and play setup and protocol access

The Verogen PrepStation has a user-friendly, graphical interface with access to an expanding selection of protocol libraries across the Verogen library preparation portfolio.



#### Prepare

Sequence

## Analyze



Figure 2: An Integrated end to end system, including the Verogen PrepStation, ForenSeq library prep kits, MiSeq FGx Sequencing System and Universal Analysis Software.

Configurable protocols allow users to modify key variables associated with the ForenSeq workflow using a simple web-form format as well as server-based script availability for labs that are not networked. Automating the ability to enrich targets, purify, normalize and pool libraries, in a single streamlined workflow enables laboratories to go from sample to ready-to-sequence libraries in one automated run (Figure 1).

An eleven-deck layout with that includes one designated deck for the Magnetic module and allocated location for labware waste maximizes the space on the automation platform. Verogen validated lab-ware set up and automation script compatibility across the target enrichment, magnetic purification, bead-based normalization and library pooling steps enables out-of-the-box operation of the Verogen PrepStation with Verogen workflows (Figure 3).

LED indicators on the automation platform provide users with timely feedback, system diagnosis & troubleshooting aid on instrument power state, system processing, ethernet and network connectivity (Table 1).

### Qualified methods for flexible batch sizes

Verogen-qualified methods allow users to access preprogrammed ForenSeq workflows that have been optimized to reduce the risk of cross-contamination with confidence. Extensive testing has demonstrated these methods perform comparably to manually prepared libraries while ensuring reproducible results. A growing suite of supported applications allows users to confidently adopt Verogen workflows (Table 2).

Table 1: Specifications for Verogen PrepStation

Dimensions	63cm x 57cm x 66cm / 25in x 22.5in x 26in (W,D,H)
Weight	40kg or 88lb
Compliance	Tested to UL 61010-1-safety standards CB certificate Complies with EU directives for low voltage, machinery, ROHS, EMC
Connectivity	WiFi 2.4 GHz IEEE 802.11b/g/n, USB 2.0
A/V	Integrated A/V
Remote troubleshooting	Yes
Power requirements	100-240 VAC / 50-60 Hz 220 W MAX
USB ports	4
Frame composition	Rigid steel and CNC aluminum design
OS	Windows 10, macOS 10.10 or later, Ubuntu 12.04 or later
Pipette configurations	Single-channel and 8-Channel
Number of decks	11
Magnetic module	Included



Α. Β. Enrich targets TRASH 11 10 11 7 7 8 Δ 4 1 Purification & Normalization C. D. Pool Libraries 10 9 7 9 4 6 1 3 2 elution plate

Figure 3: Validated deck layout: (A) Default deck (B) Layout for target enrichment step of the workflow (C) Layout for SPRI purification and bead-based normalization steps of the workflow (D) Layout for ForenSeq library pooling steps of the workflow

Table 2: Compatible workflows

Kit	Compatibility	Batch size
ForenSeq MainstAY product line including ForenSeq MainstAY Kit and. ForenSeq MainstAY SE Kit	Yes	8, 16, 24, 32, 40 or 48 reactions
ForenSeq Imagen Kit	Yes*	8, 16, 24, 32, 40 or 48 reactions
ForenSeq DNA Signature Prep Kit	Yes*	8, 16, 24, 32, 40 or 48 reactions
ForenSeq Kintelligence Kit	Yes*	3, 6 or 12 reactions

In development

#### Conclusion

The Verogen PrepStation increases operational effciency by eliminating manual pipetting and reducing variability across runs. When used in conjunction with the MiSeq FGx Sequencing System and the Universal Analysis Software, it facilitates confident adoption of NGS.

#### Ordering information

Product	Part #
Verogen PrepStation	V16000192





For information on Verogen products, please contact your Verogen representative or visit <u>www.verogen.com/support.</u>