

Agilent Magnis NGS Prep System

Quality NGS libraries with walk-away automation

The Agilent Magnis NGS Prep System (Figure 1) produces sequencing-ready libraries compatible with Illumina platforms. It is comprised of an instrument, reagents, and pre-configured protocols. The system is fully automated to deliver eight libraries in under 9 hours, using between 10 to 200 ng of sheared genomic DNA input. The quality of the output libraries is supported by the precision and reliability of the system.

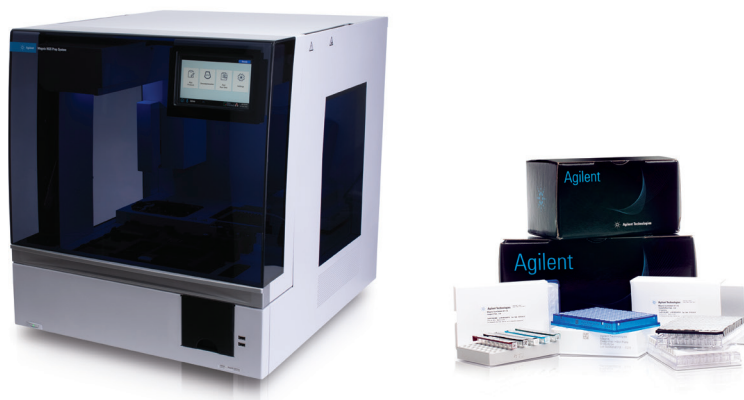


Figure 1. The Agilent Magnis NGS Prep System is fully automated and optimized for ease of use and reproducible NGS libraries.

The setup wizard guides you to prepare for a run in 5 minutes by loading the sheared genomic DNA, prepackaged SureSelect XT HS reagents, and plastic consumables onto the Magnis System deck (Figure 2). The Magnis System performs all library preparation and hybrid capture-based target enrichment steps (Figure 3), including PCR amplification, using the integrated thermocycler. After setup confirmation you can walk away from the Magnis System during library preparation, and return to collect the libraries from the completed run approximately 9 hours later.

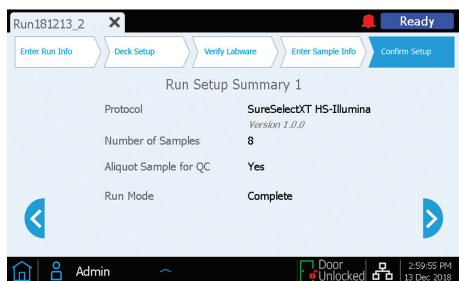
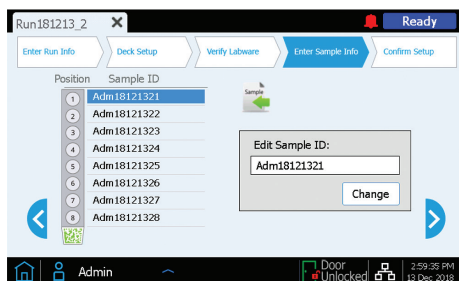
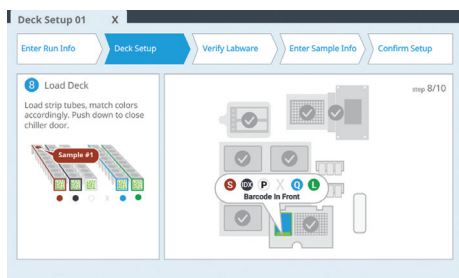
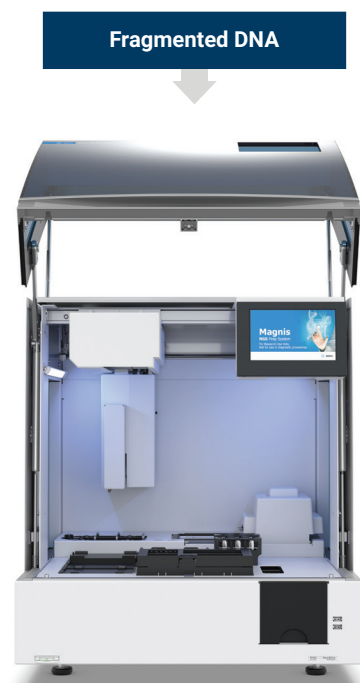
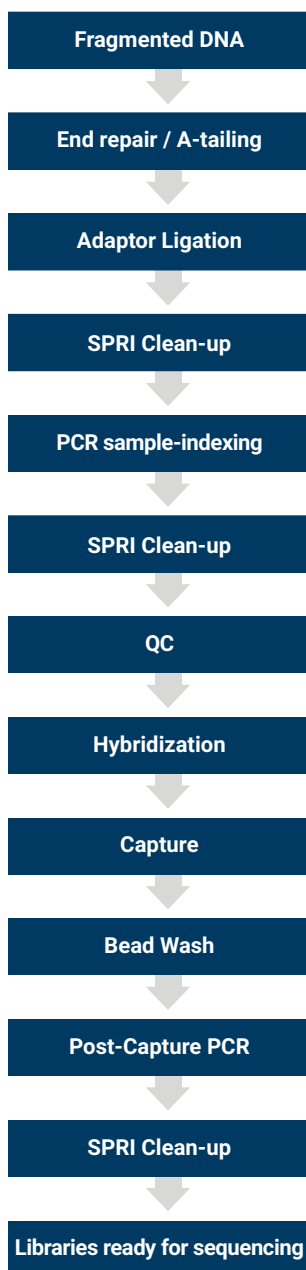


Figure 2. Magnis run setup: The wizard guides you through the run setup steps, including entering run information, configuring deck setup, verifying labware, entering sample information, and confirming setup.

Manual Library Prep

Magnis

~ 2.5-3 hours hands-on time



5 minutes hands-on time

Figure 3. The Magnis System fully automates NGS library preparation using a built-in thermocycler, shaker, heater, and magnet, all in a compact footprint to save valuable lab space.

The Magnis System harnesses the precision of the liquid handling technology combined with optimized protocols to reduce operator variability and human error. In addition, the built-in UV lamp removes inter-run cross contamination.* As a result, the libraries produced by the Magnis System demonstrate excellent consistency, illustrated by the reproducibility of output libraries from the following study (Figure 4).

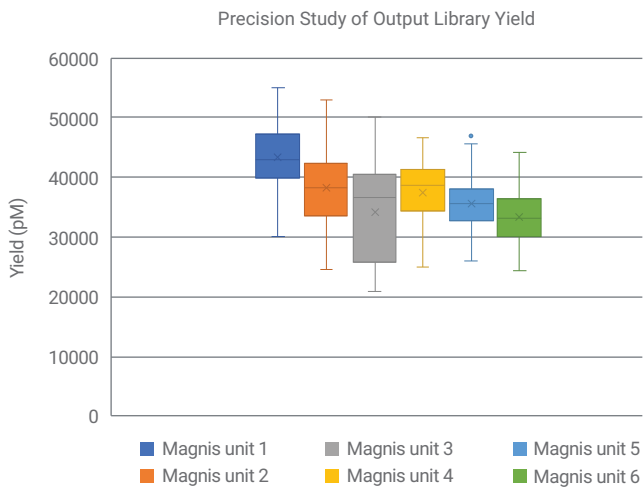


Figure 4. The Magnis System library yield reproducibility study: From each of the six Magnis instrument, 50 ng of gDNA, extracted from HapMap NA18507 and mechanically sheared, is included in each of the five runs for the ClearSeq comprehensive cancer panel. Concentration of the output libraries is measured by TapeStation 4200 system, overall coefficient of variation from 240 libraries is 17.9%.

The Magnis NGS Prep System uses the industry-leading SureSelect XT HS library preparation and hybrid capture target enrichment solution. The SureSelect XT HS reagent kit demonstrates excellent capture efficiency, and compatibility with formalin-fixed paraffin embedded (FFPE) samples (Figure 5). Using SureSelect chemistry coupled with automation-enabled precision, the Magnis instrument accepts DNA input as low as 10 ng and as high as 200 ng extracted from blood, freshly frozen tissue, and FFPE samples. This yields quality libraries across target sizes from 1 kb to whole exome.

The Magnis System SureSelect XT HS kit includes all necessary reagents and materials to produce final libraries. You can order catalog or custom target enrichment panels designed within the SureDesign portal. The run protocol is preconfigured to balance efficiency and performance, and allows you to modify or optimize some parameters based on your specific needs. With a total run time of approximately 9 hours, the Magnis System delivers up to 40 libraries per week of regular workdays.

*Supported from R&D validation data.

The Magnis NGS Prep System is a robust solution, supported by the industry-leading Agilent service team. With ease of use and consistency in performance, the Magnis workflow enables any lab to prepare NGS libraries with confidence.

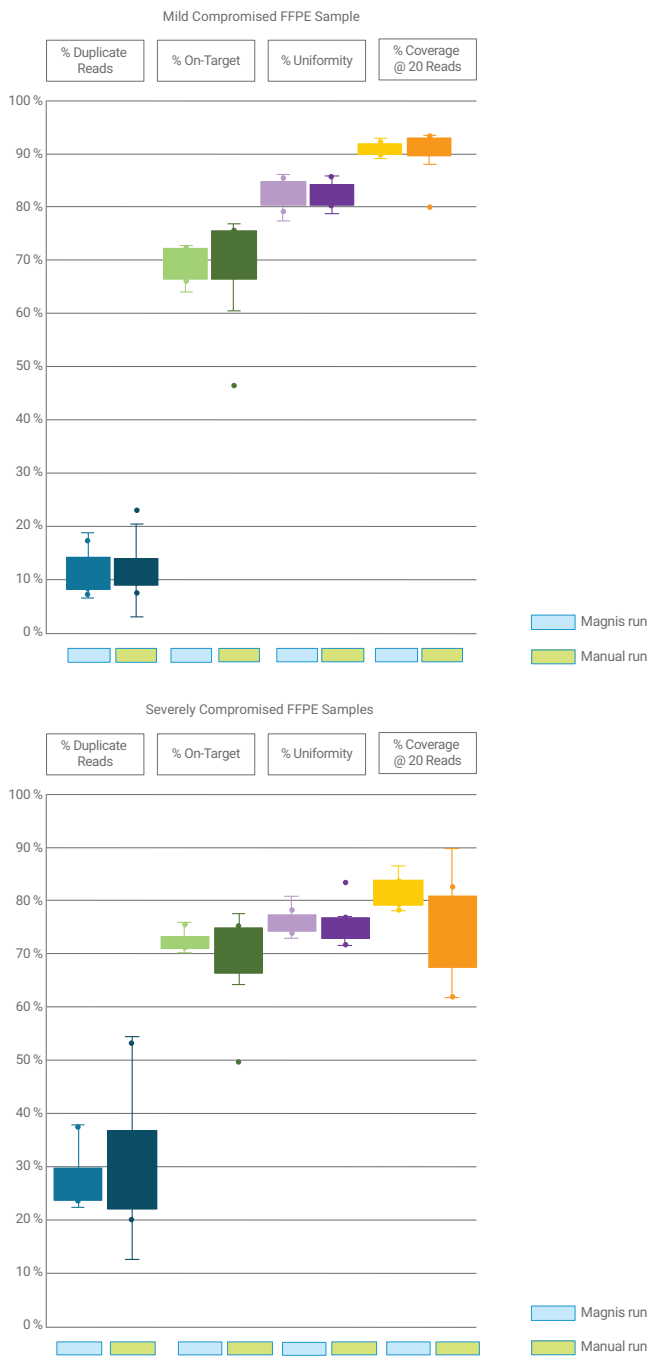


Figure 5. Performance of libraries generated by the Magnis System compared with those by manual prep: Mildly compromised and severely compromised FFPE samples, duplicates of 10 ng of gDNA, extracted and mechanically sheared, are included in each of the five Magnis runs for custom design panel of 118 kb size. Sequencing metrics are compared between these two methods for each of the four categories.

System specification

RUO and CE-IVD (Europe only) versions of the Magnis System are available.

Depth	720 mm
Width	620 mm
Height	710 mm
Line Voltage	100-240 V $\pm$ 10%
Line Frequency	50/60 Hz $\pm$ 5%
Average/Maximum Power Consumption	450 W / 900 W
Weight	100 kg
Operating Temperature Range	15-25 °C
Operating Humidity Range	30-70% RH

Learn more:

For more information about the Magnis System, please visit <https://www.agilent.com/en/promotions/magnis>

Ordering Information

Product	Catalog Number
MagnisDx NGS Prep System (CE-IVD version)	K1007AA
Magnis NGS Prep System (RUO version)	G9710AA
Magnis SureSelect XT HS, 1 - 499 kb, ILM, 32 rxn (RUO)	G9731A
Magnis SureSelect XT HS, 1 - 499 kb, ILM, 96 rxn (RUO)	G9731B
Magnis SureSelect XT HS, 0.5 - 2.9 Mb, ILM, 32 rxn (RUO)	G9732A
Magnis SureSelect XT HS, 0.5 - 2.9 Mb, ILM, 96 rxn (RUO)	G9732B
Magnis SureSelect XT HS, 3 - 5.9 Mb, ILM, 32 rxn (RUO)	G9733A
Magnis SureSelect XT HS, 3 - 5.9 Mb, ILM, 96 rxn (RUO)	G9733B
Magnis SureSelect XT HS, 6 - 11.9 Mb, ILM, 32 rxn (RUO)	G9734A
Magnis SureSelect XT HS, 6 - 11.9 Mb, ILM, 96 rxn (RUO)	G9734B
Magnis SureSelect XT HS, 12 - 24 Mb, ILM, 32 rxn (RUO)	G9735A
Magnis SureSelect XT HS, 12 - 24 Mb, ILM, 96 rxn (RUO)	G9735B
Magnis SureSelect XT HS, exome v7, ILM, 32 rxn (RUO)	G9771A
Magnis SureSelect XT HS, exome v7, ILM, 96 rxn (RUO)	G9771B
Magnis SureSelect XT HS, No Probes, ILM, 96 rxn (RUO)	G9730B
Magnis Automation tips (50 PKs)	G9477G

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Magnis NGS Prep System is For Research Use Only. Not for use in diagnostic procedures.

MagnisDx NGS Prep System is For In Vitro Diagnostic Use.

This information is subject to change without notice.