

GS100 Sequencing System



High precision

- $Q40 \geq 85\%$
- Detection of low-frequency mutations



Fast speed

- 6.5hrs
- Meet the needs of mNGS, PGT-A and other rapid detection scenarios.



Flexible

- On-demand run starts with no waiting time;
- Designed for all major library types;
- Supports a wide range of sequencing reagent specifications.

GS100 Sequencing Platform

The G100 is a compact desktop sequencer featuring intuitive controls, flexible output, high precision, and broad applicability across multiple scenarios.

Powered by CYGNUS' s world-novel core sequencing technologies, it delivers long-read, high-speed, and high-accuracy sequencing with data quality reaching Q40.

The GS100 is compatible with all major library types, supports a wide dynamic range of input, and allows flexible, on-demand run starts with no waiting time. It is designed to meet the needs of most sequencing applications.



Fluorogenic chemistry

Fluorogenic chemistry synchronously integrates the three core elements of SBS (DNA extension/synthesis, label cleavage, and fluorescence signal generation) into a single, rapid sequencing reaction.

The fluorescent label is attached to the terminal phosphate, leaving the base in its natural state during polymerization. This eliminates molecular scarring and enables long-read sequencing.

Table 1: Summary

Type	Desktop
Output	2.5Gb~30Gb
Reads	25M, 50M and 100M
Read length	SE50, SE100, PE100, PE150
Run time	6.5~24hrs
Data quality	$Q40 \geq 85\%$, $Q30 \geq 95\%$
Key applications	WES, small whole-genome sequencing, targeted gene sequencing

Table 2: System performance parameters

Reads	Read length	Output	Time	Data quality
25M	SE100	2.5Gb	8hrs	Q40 ≥ 85%
	PE150	7.5Gb	19.5hrs	
100M	SE50	5Gb	6.5hrs	
	SE100	10Gb	8.5hrs	
	PE100	20Gb	16.5hrs	
	PE150	30Gb	24hrs	

Table 3: Application example

Application type	Recommended number of samples for single run	
	25M Reads	100M Reads
mNGS SE50 20M Reads	1	5
tNGS SE100 1M Reads	24	96
Targeted panel of tumor (tissue) PE150 1Gb/sample	7	30
Targeted panel of tumor (blood) PE150 6Gb/sample	-	5
PGT-A SE100 3M Reads	8	32
NIPT SE50 6M Reads	4	16
WES PE150 15Gb/sample	-	1-2

Product specification

Operating Environment

Temperature	19°C~25°C
Humidity	Noncondensing 20%RH~75%RH
For indoor use only	

Power Requirement

Voltage	200~240VAC、50Hz
Rated power	750VA
Waterproof rating of enclosure	IPX0
Operational mode	Continuous Operation

Instrument control computer

CPU	Intel®Core™ i5
Memory	16GB
Hard Drive	1000GB
Operating System	Windows 10
Network Speed	2500Mbps

Storage and transportation Environment

temperature	-20°C~55°C
Humidity	20%RH~85%RH (Noncondensing)

Cool, dry and well-ventilated, avoid direct sunlight
Transportation by vehicles without shock absorbers should be avoided.
When transferring instruments, they should be placed in the warehouse.

Dimension

Weight	≤90kg
Crated Weight	≤165kg
W × D × H	550mm × 650mm × 650mm
W × D × H (Package)	676mm × 900mm × 980mm

Server

CPU	13th Gen Intel® Core™ i9
Memory	128GB
Hard Drive	1TB
HDD	28TB
Network Speed	2500Mbps



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