

Leading Life Science Innovation

# AgriHigh Low-pass WGS Package

Agricultural genotyping solution  
based on DNBSEQ™ technology

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## About MGI Tech Co., Ltd.

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# AgriHigh Low-pass WGS Package

Agricultural genotyping solution  
based on DNBSEQ™ technology



For research use only.

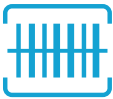
# INTRODUCTION

Genomic selection (GS) facilitates the rapid identification of superior genotypes, thus accelerating the breeding cycle. Low-pass whole-genome sequencing (WGS) has been applied in both animal and plant breeding. However, challenges persist in implementing low-pass WGS package for large-scale breeding.

Now, we provide a highly efficient total solution based on DNBSEQ™ technology for agricultural breeding with low-pass WGS. With this solution, high-accuracy SNP results were achieved from 0.5×~2× low-pass WGS in animal tissue or blood samples. The results demonstrate 98.0±0.5% concordance with 50× WGS and 97.8%±1.1% consistency with microarray.

AgriHigh Low-pass WGS Package is an end-to-end full-process, flexible adaptation to different flux requirements, smooth switching between full automation and semi-automation, and scalable overall whole solution, which meets the needs of the off-season and peak season, large and small factories flexibly.

# ADVANTAGES



Brand-new 3 + 1



100K~1000K Samples per Year



Flexible Automation Combination



Point-and-shoot Operation

# Brand New 3 + 1

A fast and simplified library preparation

AgriHigh Low-pass WGS Package provides a revolutionary library preparation method based on the DNBSEQ™ platform.

Brand-new **3-step** library preparation without purification, combined with **OneStep** DNB Making, offering an ultra-simple and fast library preparation. The new plate-version reagent kit is friendly to automation.



Fast Workflow



Consumable Saving



Competitive Price



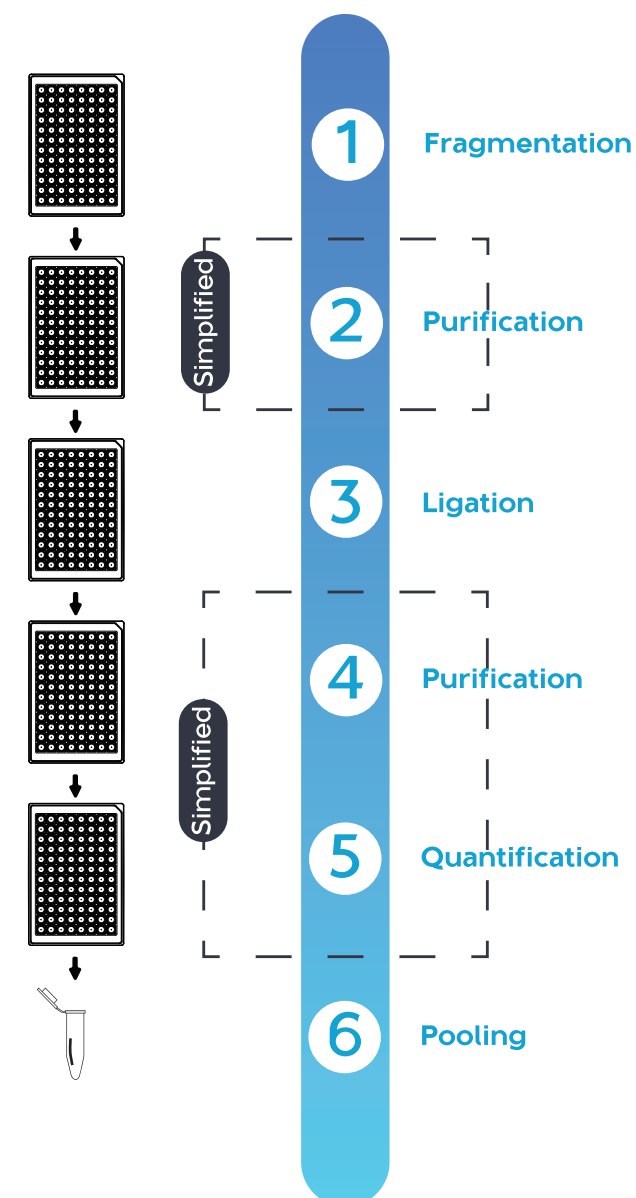
Operational Simplicity



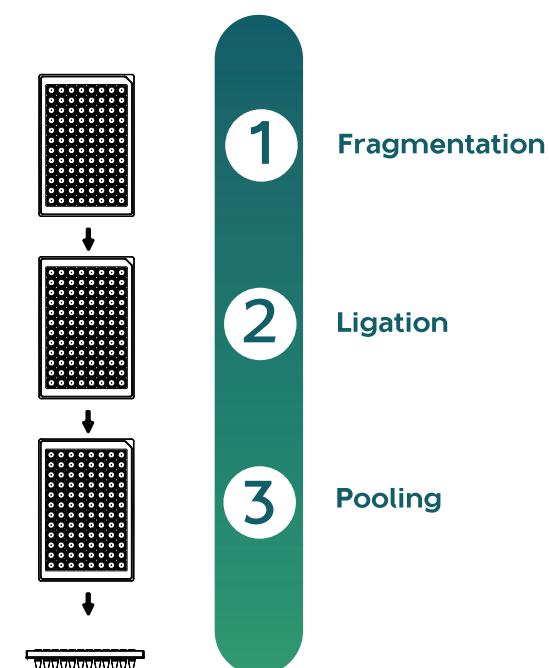
## Library Prep Reagent

MGEasy Large-scale PCR-Free FS Library Prep Set for Low-pass WGS (Plate)

### Normally Used Library Prep Workflow



### MGI Low-pass WGS Library Prep Workflow



Turn around time

**384 samples/2 h**

from gDNA to library



# Streamlined Workflow with **Less Than Six** Automation Instruments

Sample Preparation

## STEP 1

○ ×**1** MGISP-NE384

○ ×**2** AlphaTool

○ ×**0.1** MGISP-960

Library Preparation

## STEP 2

○ ×**0.9** MGISP-960

DNB Sequencing

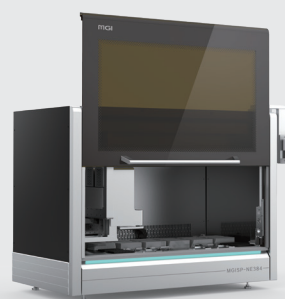
## STEP 3

○ ×**1** MGISP-100

Up to

# 1000K\*

samples per year



**MGI SP-NE384**

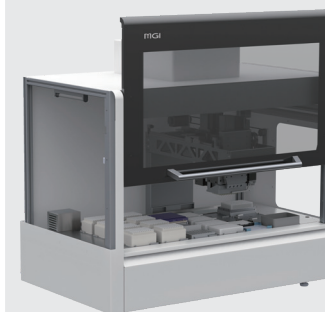
**Throughput**  
384 samples/run\*

**Certification**



**AlphaTool**

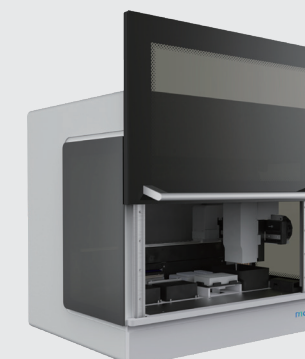
**Performance**  
1 to 1000 µL pipetting  
single-channel pipettor



**MGI SP-960**

**Throughput**  
384 samples/run\*

**Certification**



**MGI SP-100**

**Throughput**  
768 Samples/Run\*

**Certification**



\*The number was calculated based on chicken genome size (~1.1 G)

\*\*For research use only



DNBSEQ-T7

# UNLOCK INSIGHTS

for molecular breeding



High mapping  
rate



High concordance  
with 50× WGS



High consistency  
with microarray

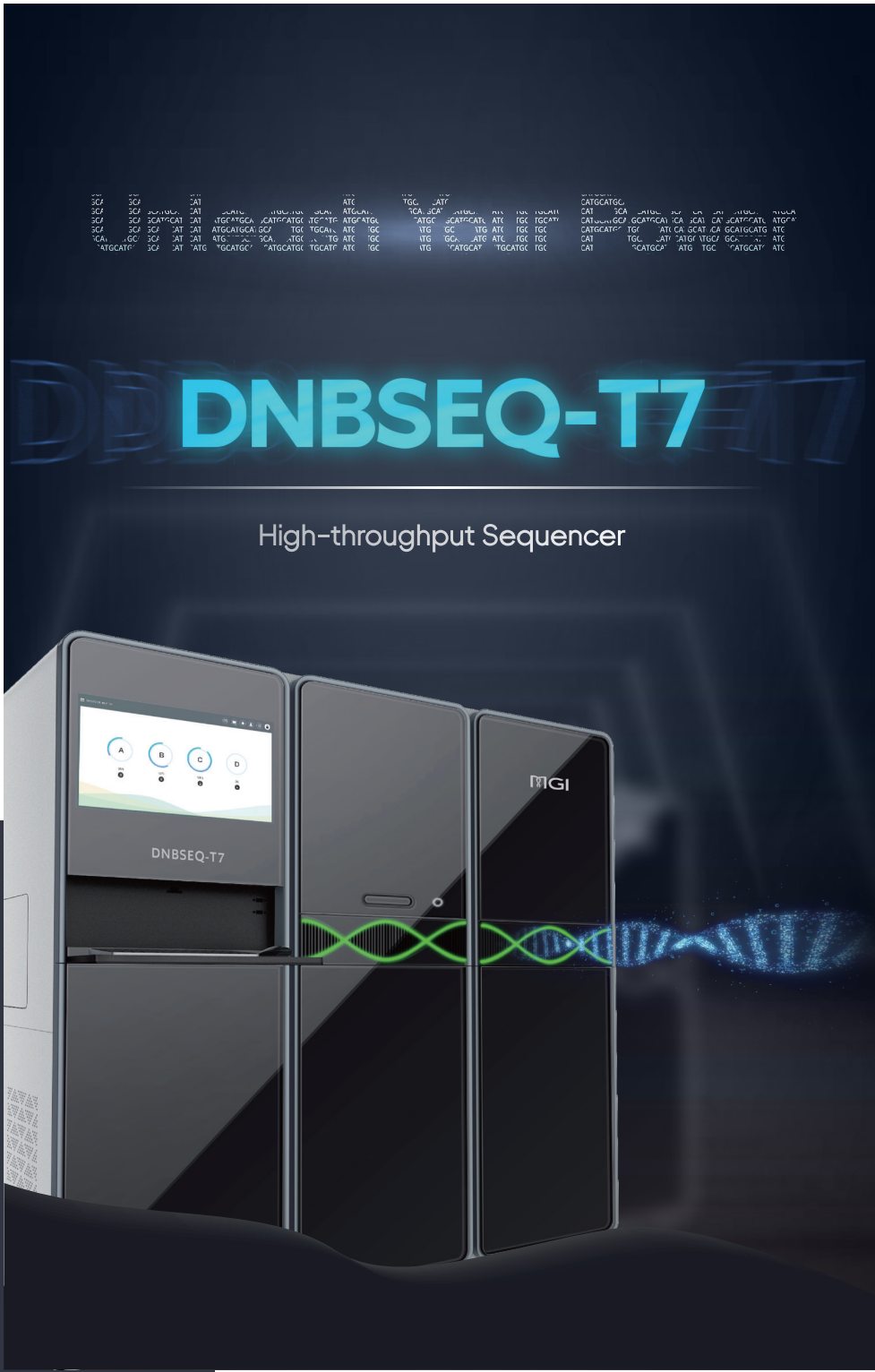
Low  
Cost

Balance

High  
Quality

DNBSEQ-T7 can generate 1-7 Tb of high-quality data per day with DNBSEQ™ technology, it can unlock insights for molecular breeding by generating **1536 pigs sequencing data (~1.5× WGS)** in **22~24h**.

With DNBSEQ-T7, AgriHigh Low-pass WGS Package recommends low-pass whole genome sequencing application in livestock and poultry molecular breeding. Average 0.5× ~ 2× depth WGS is provided.



≥7 Tb

output per run on PE150

≤24 hrs

sequencing time on PE150

≥85 %

Q30 on both PE150 and PE100

# Point-and-shoot Operation



**MegaBOLT** Workstation Server

192 Samples  
within 24 h

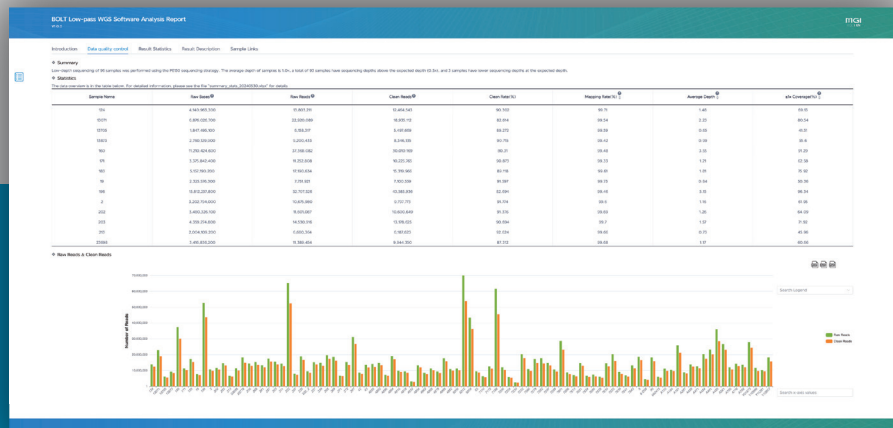
≥98.0% Concordance  
with 50× WGS



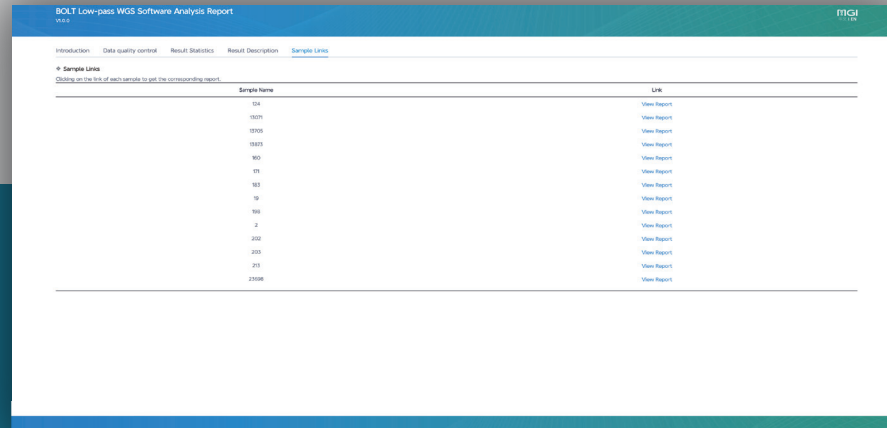
**MGI·ZBOLT**  | **Pro** Rack Server

≥97.5% Consistency  
with microarray

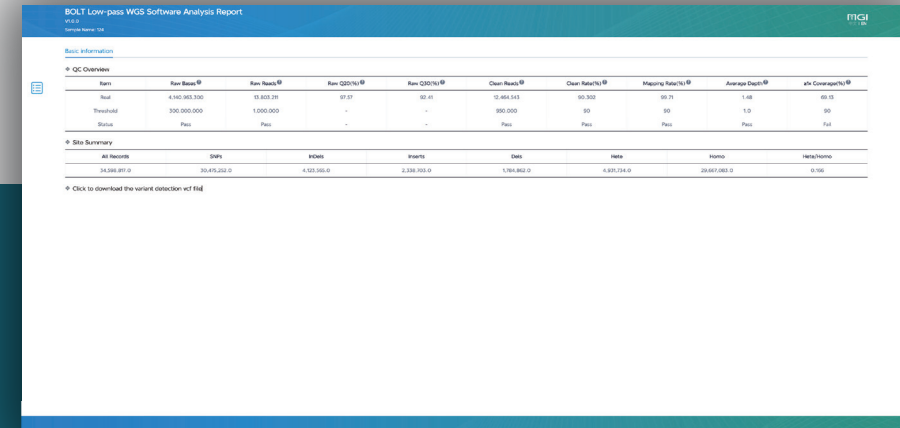
1536 Samples  
within 24 h



**Fig 1.** Overview of summary report



**Fig 2.** Details of individual sample reports



**Fig 3.** Overview of indicators of individual sample report

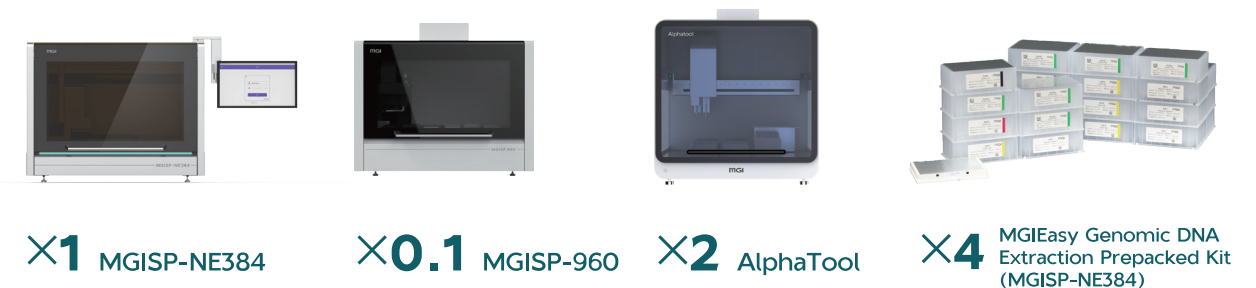
# WHAT DOES MGI OFFER FOR Low-pass WGS

## Processing 1536 Samples per day\*

Turn Around Time within 6 Days\*\*

### STEP 1 Sample Preparation

4 h/run × 4 runs



### STEP 2 Library Preparation

2 h/run × 4 runs



### STEP 3 DNB Sequencing

24+4 h/run × 1 run



### STEP 4 Data Processing

24 h/run × 1 run



\*6 days parallelly processing 7680 samples, which is 1536 samples per day  
\*\*Streamlined processing of 1536 samples within 6 days



Choose Your

# SUPERPOWER

to bring discoveries within reach

From flexible and comprehensive tasks to production-scale projects, MGI provides you with answers for advanced agricultural discoveries.

## DNBSEQ-T7

- ✓ Four flow cells
- ✓ 1.75 - 7 Tb data output
- ✓ 22 - 24 h running time

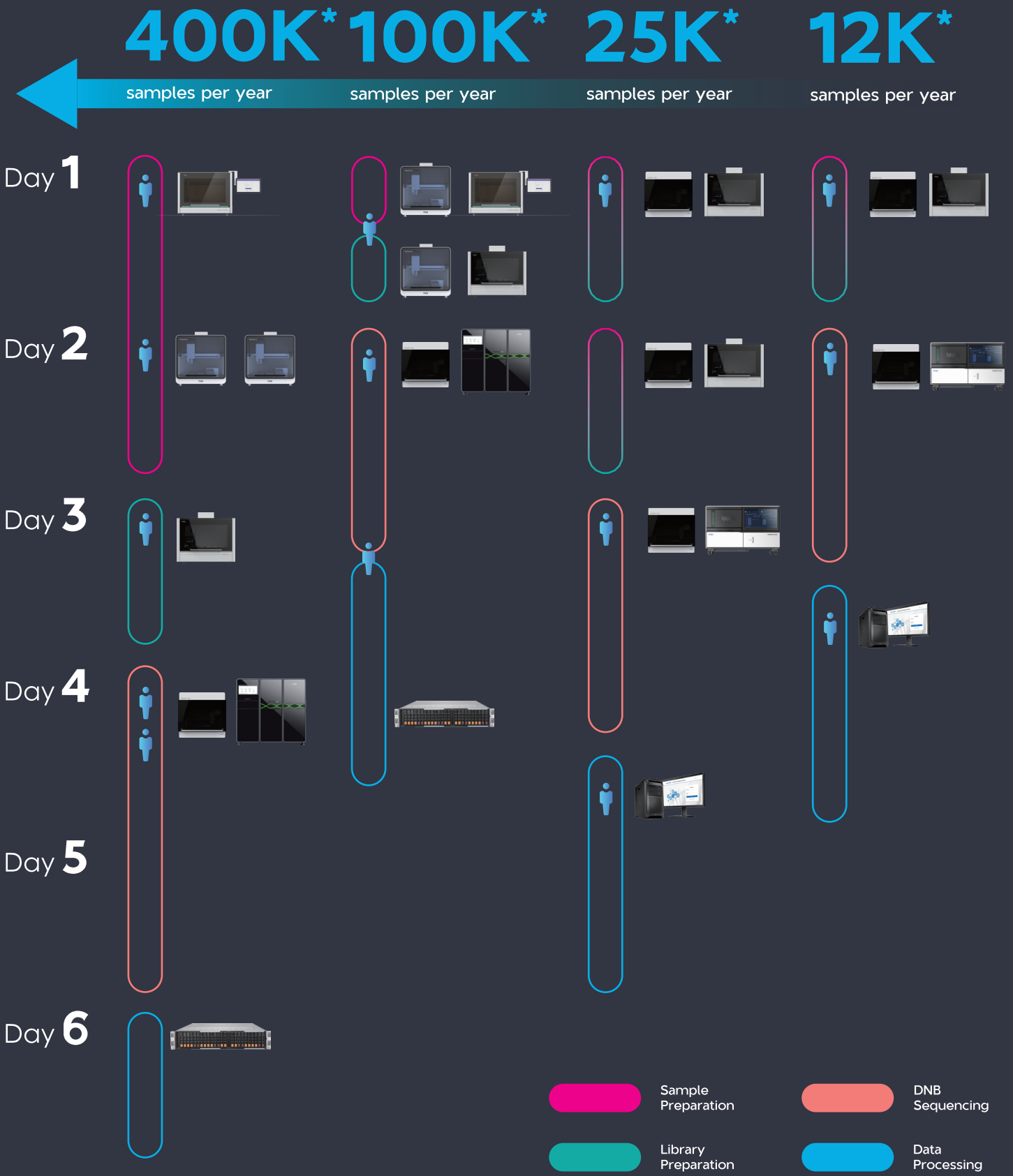
## DNBSEQ-G400

- ✓ Two flow cells (FCL)
- ✓ 450 - 540 Gb data output
- ✓ 50 h running time

Samples per run	Samples per 5 days	Samples per year
1536	7680	400K
384	1920	100K
192	480	25K
96	240	12K

DNBSEQ-T7 (Standard Version)

DNBSEQ-G400 (Basic Version)



\*The numbers were calculated based on pig genome size (~3 G)

# Ordering Information

## AgriHigh Low-pass WGS Package

### High Throughput AgriHigh Low-pass WGS Package

Process	Cat. NO.	Product Name
Sample Preparation	900-000358-00	Automated Nucleic Acid Extractor MGISP-NE384RS
	960-001238-00	AlphaTool liquid handler
	962-000068-00	24 Reagent Adaptor
	940-000974-00	MGIEasy Genomic DNA Extraction Prepacked Kit (MGISP-NE384) (384RXN)
Library Preparation	900-000150-00	MGISP-960RS High-throughput Automated Sample Preparation System
	940-002049-00	MGIEasy Large-scale PCR-Free FS Library Prep Set for Low-pass WGS (384RXN)
DNB Sequencing	900-000206-00	DNA Sequencing Library Preparation System MGISP-100RS
	900-000242-00	Genetic Sequencer DNBSEQ-T7RS*
	900-000134-00	MGIDL-T7RS DNB Loader*
	900-000406-00	Data Analysis Appliance MGI-ZTRON-LITE
	940-000268-00	DNBSEQ-T7RS High-throughput Sequencing Set (FCL PE150) V3.0*
	1000020834	CPAS Barcode Primer 3 Reagent Kit*
	940-001654-00	DNBSEQ OneStep DNB Make Reagent Kit V4.0 (4 RXN/Kit)*
Data Processing	900-000460-00	ZBOLT Pro Bioinformatics analysis accelerator
	970-000519-00	BOLT Low-pass WGS Software Analysis Package (96 reports)

### Medium Throughput AgriHigh Low-pass WGS Package

Process	Cat. NO.	Product Name
Sample Preparation	900-000152-00	MGISP-960RS High-throughput Automated Sample Preparation System
	940-000972-00	MGIEasy Magnetic Beads Genomic DNA Extraction Kit (96RXN)
Library Preparation	900-000152-00	MGISP-960RS High-throughput Automated Sample Preparation System
	940-002162-00	MGIEasy Large-scale PCR-Free FS Library Prep Set for Low-pass WGS (96RXN)
DNB Sequencing	900-000206-00	DNA Sequencing Library Preparation System MGISP-100RS
	900-000170-00	Genetic Sequencer DNBSEQ-G400 RS*
	940-001356-00	DNBSEQ-G400RS High-throughput Sequencing Reagent Set (G400 FCL PE150)*
	1000020834	CPAS Barcode Primer 3 Reagent Kit*
	940-001654-00	DNBSEQ OneStep DNB Make Reagent Kit V4.0 (4 RXN/Kit)*
Data Processing	900-000555-00	MegaBOLT Bioinformatics analysis accelerator
	970-000519-00	BOLT Low-pass WGS Software Analysis Package (96 reports)

\*Unless otherwise informed, this StandardMPS sequencing reagent is not available in Germany, UK, Sweden, and Switzerland.

# MGI Global Presence



Local technical support and Customer Experience Centers (CECs) have been established in multiple countries and regions worldwide to ensure timely and effective technical support and training.



Local warehouses and spare part centers have been established in multiple countries and regions worldwide to ensure the continuous availability of machine parts for maintenance.



Online technical support is available globally with a fully functional call center (Toll-Free Hotline 4000-688-114) accessible during workdays from 9:00 AM-12:00 PM and 13:00 PM-18:00 PM (Beijing time, GMT+8).



Providing installation services and system verification services as needed to ensure smooth implementation and operation. The value-added services are available for personalized services such as secondary relocation.



Responsible for any failure caused by non-human factors and non-force majeure factors within the warranty.



Providing instrument preventive maintenance services within the warranty period, along with a host of available extended warranty support plans to ensure optimal performance and reliability.

## About MGI Tech Co., Ltd.



### 2,860+

Employees

MGI Tech Co., Ltd. (or its subsidiaries, together referred to MGI), is committed to building core tools and technologies that drive innovation in life science. Our focus lies in research & development, manufacturing, and sales of instruments, reagents, and related products in the field of life science and biotechnology. We provide real-time, multi-omics, and full spectrum of digital equipment and systems for precision medicine, agriculture, healthcare and various other industries.

### 33.4%

R&D Personnel

Founded in 2016, MGI has grown into a leader in life science, serving customers across six continents and have established research, manufacturing, training, and after-sales service facilities globally. MGI stands out as one of the few companies capable of independently developing and mass-producing clinical-grade gene sequencers with varying throughput capacities, ranging from Gb to Tb levels. With unparalleled expertise, cutting-edge products, and a commitment to global impact, MGI continues to shape the trajectory of life sciences into the future.

### 2,800+

Customers

As of December 31, 2023, MGI has a team over 2,860 employees, with research and development personnel accounting for approximately 33.4%. Our business spans over 100 countries and regions worldwide, serving more than 2,800 users.

### Vision

Leading Life Science Innovation

### 100+

Countries & Regions

### Mission

To Develop and Promote Advanced Life Science Tools for Future Healthcare