# ■ EXTRACTION PERFORMANCE TEST

- **Test method**   Manual vs Automated

- **Evaluation standard**   RT-PCR

- **Test samples**   Simulated samples of throat swab containing SARS-CoV-2(R-NA), dilute them in different concentrations.

- **Test results**   Ct value of fluorescent quantitative PCR acquired by using automation is lower than using manual, which demonstrates that the yield of virus RNA is higher than using manual. Meanwhile , the curves concentrate on the peak diagram,an indicator of good reproducibility.
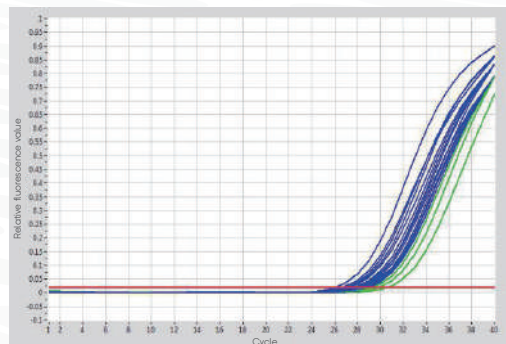
> ■ **Manual Extraction**
> RNA virus extraction kit (silica membrane)
>
> ■ **Automated Extraction**
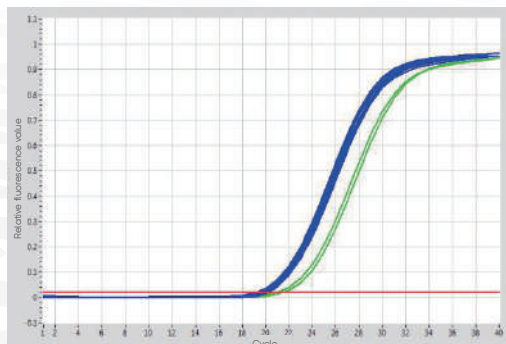> MGIEasy Nucleic Acid Extraction Kit + SP-960
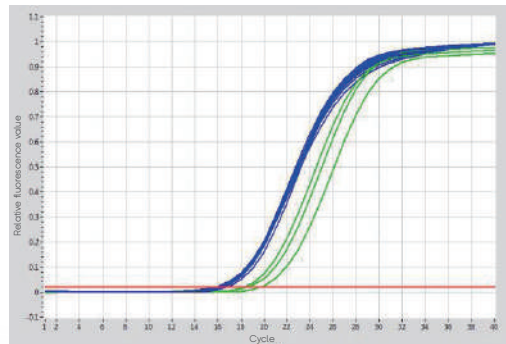
- Simulated samples of throat swab 1
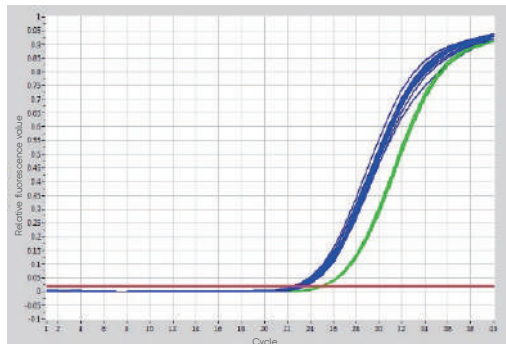
- Simulated samples of throat swab 2

- Simulated samples of throat swab 3

- Simulated samples of throat swab

— Base line   — Result of automation   — Result of manual

SP-960
High-throughput Automated Sample Preparation System
Perform 192 samples extraction within 60min

ORDER INFORMATION

Equipment

Cat. No.	Product name	Specification
900-000154-00	High-throughput Automated Sample Preparation System MGISP-960RS, V9	EA,CE RUO
900-000165-00	High-throughput Automated Sample Preparation System MGISP-960, V9	EA,CE IVD

Reagents

Cat. No.	Product name	Specification
1000020261	MGIEasy Nucleic Acid Extraction Kit	1728 preps,RUO
1000021043	Nucleic Acid Extraction Kit	1728 preps,IVD

Consumables

Cat. No.	Product name	Specification
1000000723	250µL automated filter tips	96 tips/box, 10 boxes/bag
1000004644	1.3mL U-bottom deep-well plate	2 plates/bag
1000000671	0.2mL 96 Well Half-skirt PCR Plate	200 plates/case
091-000152-00	70µL Automated Filter Tips	96 tips/box, 10 boxes/bag

MGI Tech Co., Ltd.

Building 11, Beishan Industrial Zone,Yantian District, Shenzhen.CHINA 518083

📞 (+86) 4000-688-114   🌐 global-mgitech.com   ✉ MGI-service@mgi-tech.com

Version: 20251202

MGI

60 Minutes   192 Samples

For high-throughput automated extraction

MGISP-960

HIGH-THROUGHPUT
AUTOMATED SAMPLE PREPARATION SYSTEM

SP-960

(MET) CB CE EAC NMPA

Leading Life Science Innovation

SP-960

SP-960 is a liquid handling workstation with integrated 96 channel pipette, which can be used for extraction. SP-960 can work with MGIEasy Nucleic Acid Extraction Kit and extract 96/192 samples per run. It can also be used to set up RT-PCR after automated extraction

96 Channel Pipette
Can operate 96 wells at one time

Pipette Type	96 channel pipette
Pipetting Range	1 μL-200 μL
Pipetting Precision	2 μL : <5% 200 μL : <1%
Pipetting Accuracy	2 μL : <±10% 200 μL : <±1%
Positioning Precision Of Robotic Arm	±0.1mm

ONE-STOP PLATFORM
Provide instrument, consumables and kits for extraction

Sample → Automated Extraction → Automated RT-PCR Reaction Setup → RT-PCR
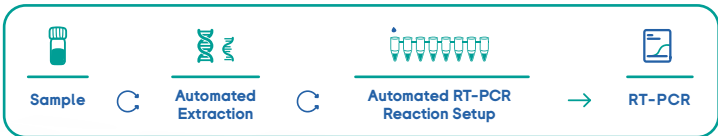
MGIEasy Nucleic Acid Extraction Kit

- Good extraction stability
- Compatible with automated system
- High nucleic acid recovery rate
- Adaptable to majority of downstream applications: PCR, RT-PCR, Sequencing, etc

SP-960
High-throughput Automated Sample Preparation System

- Automate extraction step
- Automate RT-PCR reaction setup
- Compatible third-party extraction kit*
- Can run 192 samples in 60min

*Need to be verified

HEPA system
Positive pressure
Filtration efficiency 99.995% @ 0.3μm

UV Disinfection
Integrated UV lamps to ensure all spaces of the instrument receives the same level of UV exposure.

Radiation dose
higher than 100,000 μW.s/cm²

Microplate Shaker
Rotary speed range:
100rpm to 2000rpm

Magnetic Rack
Equipped with 2 high-effcient 96-well magnetic racks.

Microplate Gripper
Move consumables between different positions, equipped with claw sensing.

Temperature Control Module
Accurate temperature control, range from 4°C to 90°C.

Temperature Range	4-90°C
Temperature Accuracy	±1°C at 55°C
Temperature Uniformity	±1°C at 72°C

High throughput
- 192 samples can be processed in a single run within 60min.
- Easy to operate, no manual intervention during extraction.

Efficient
- Integrate various functions, require less than 1 m³.
- Can perform extraction and RT-PCR setup, facilitated by minimal common auxiliary devices.

Safe
- Use filter tips to avoid cross contamination.
- Enclosed safety protection door and automated extraction to ensure safety of operators.

Reliable
- Good repeatability between runs, stable extraction performance.
- The lower limit of the pipetting range is 1 μL. The accurate pipetting precision ensure higher extraction efficiency.

CROSS CONTAMINATION TEST

- **Test method** Take simulated samples of throat swab containing SARS-CoV-2(RNA) as positive control, and Nuclease free water as blank. Arrange these samples according to the checkboard pattern, and extract these samples with 2 plates scripts for SP-960.

- **Evaluation standard** RT-PCR

	1	2	3	4	5	6	7	8	9	10	11	12
A	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive
B	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank
C	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive
D	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank
E	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive
F	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank
G	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive
H	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank	Positive	Blank

- **Test results** The results of all positive samples are stable. The blank did not show any cross contamination.

Ct value of plate 1

	1	2	3	4	5	6	7	8	9	10	11	12
A	NoCt	21.62	NoCt	22.13	NoCt	22.45	NoCt	22.05	NoCt	22.37	NoCt	22.25
B	21.12	NoCt	21.69	NoCt	22.16	NoCt	21.94	NoCt	22.28	NoCt	22.04	NoCt
C	NoCt	21.27	NoCt	21.84	NoCt	22.3	NoCt	22.03	NoCt	22.41	NoCt	22.11
D	21.61	NoCt	21.58	NoCt	22.18	NoCt	22.21	NoCt	22.29	NoCt	21.73	NoCt
E	NoCt	21.31	NoCt	21.44	NoCt	22.28	NoCt	22.28	NoCt	22.27	NoCt	22.28
F	22.17	NoCt	21.52	NoCt	22.25	NoCt	22.33	NoCt	22.35	NoCt	21.92	NoCt
G	NoCt	21.3	NoCt	21.57	NoCt	22.36	NoCt	22.08	NoCt	22.13	NoCt	22.31
H	22.59	NoCt	21.6	NoCt	22.43	NoCt	22.18	NoCt	22.54	NoCt	21.81	NoCt

Ct value of plate 2

	1	2	3	4	5	6	7	8	9	10	11	12
A	NoCt	21.86	NoCt	21.96	NoCt	22.23	NoCt	22.33	NoCt	22.1	NoCt	22.06
B	21.83	NoCt	21.8	NoCt	22.12	NoCt	22.15	NoCt	22.17	NoCt	22.34	NoCt
C	NoCt	21.62	NoCt	21.65	NoCt	21.96	NoCt	22.09	NoCt	22.16	NoCt	22.1
D	22.06	NoCt	22.06	NoCt	22.04	NoCt	22.05	NoCt	22.26	NoCt	22.28	NoCt
E	NoCt	21.63	NoCt	21.9	NoCt	22.04	NoCt	22.09	NoCt	22.16	NoCt	21.93
F	22.1	NoCt	22.09	NoCt	22.09	NoCt	22.57	NoCt	22.27	NoCt	22.37	NoCt
G	NoCt	22.19	NoCt	22.04	NoCt	21.91	NoCt	22.06	NoCt	22.09	NoCt	22.08
H	22.19	NoCt	22.04	NoCt	22.08	NoCt	22.25	NoCt	21.97	NoCt	22.06	NoCt