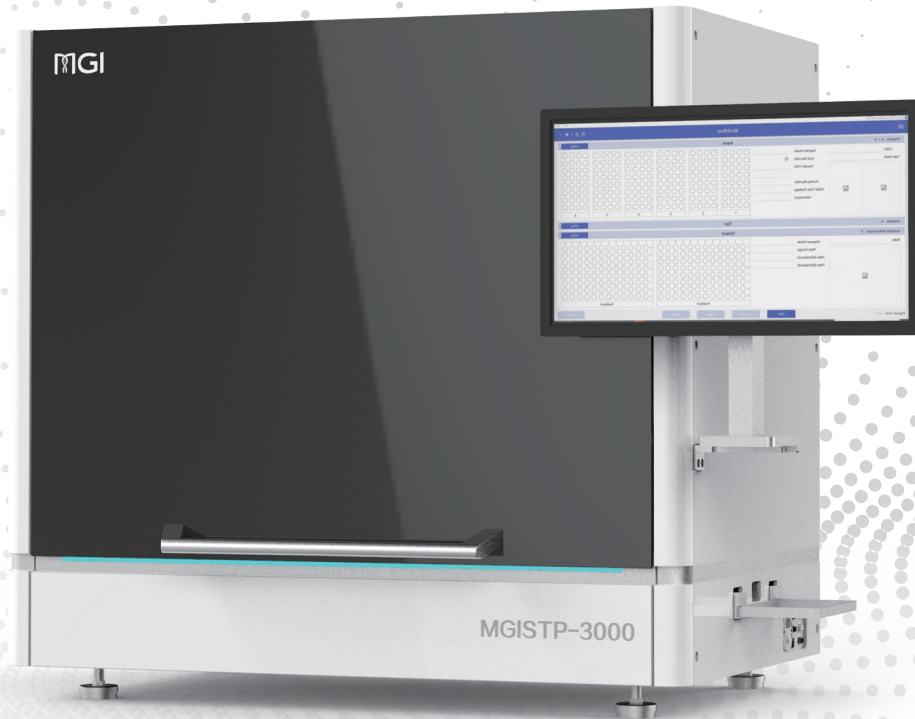To Develop and Promote Advanced Life
Science Tools for Future Healthcare
MGI Tech Co., Ltd.

MGI

96 Samples **40** Minutes Automated Safe User-friendly
Adapts to various closure types tube

MGISTP-3000

NMPA CE

| **Automated Sample Transfer Processing System**

MGISTP-3000

One Touch, Endless Convenience!
Flexible closure tubes solution

Medium throughput
Handle 3 types tube simultaneously,
96 samples in 40 min

Safe and leak-proof
HEPA protection with negative pressure,
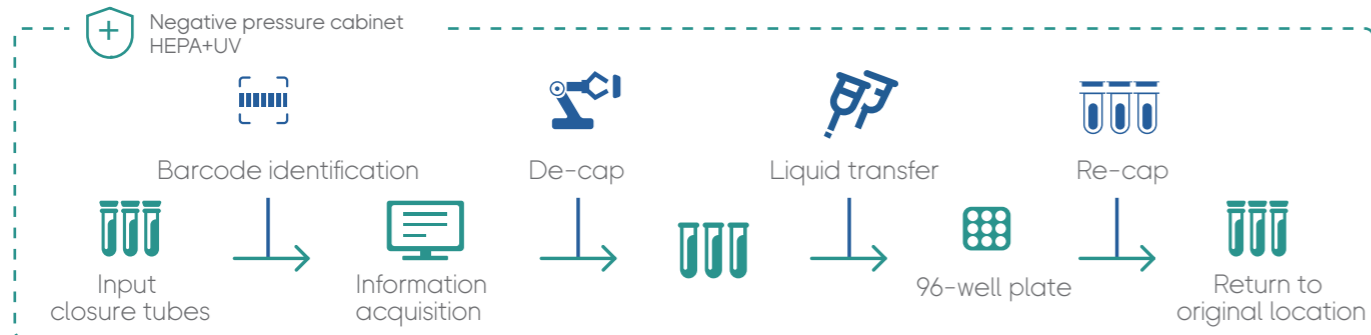reliability verification

Touch your convenience
Include: touch screen, decapper, code
scanner andliquid transfer

Flexibility
Adapts to various closure types tube,
such as VTM,Salivette,Faeces container

MGISTP-3000

Negative pressure cabinet HEPA+UV

Barcode identification → De-cap → Liquid transfer → Re-cap

Input closure tubes → Information acquisition → 96-well plate → Return to original location

MGISTP-3000 is a benchtop automated sample transfer processing system, that can finish transfering 96 samples from sealed tubes to a 96-well microplate in 40 minutes fast and accurately. The system supports handle 3 type tubes simultaneously and is equipped with a high-torque de-cap module to ensure reliable decapping result; It also supports user-defined consumables, compatible with various types of screw cap tubes; MGISTP-3000 comes with a 23-inch touch screen, with a user-friendly GUI. It integrates tube decapping, tube recapping, barcode identification, 10-1000μl single-channel pipetting module and negative pressure protection in a closed system, so it is very convenient; The system is also equipped with HEPA filtration systems for supply and exhaust air, runs fully on negative pressure to prevent leakage of infectious aerosols and cross pollution.

Effectiveness Against Aerosol

Materials and Methods

- Simulated samples of throat containing novel corona virus (RNA). The 96 positive and negative samples tubes are arrangement as shown in Table 1. Use MGISTP-3000 to transfer samples to a 96-well microplate.
- When finish the previous step, use a manual pipette to transfer all the negative samples to column 1-6 in a new microplate. 16 positive samples are randomly picked and transferred to column 11-12. Use MGIEasy Nucleic Acid Extraction Kit and MGISP-960 for extraction. RT-PCR to

Test Results

All the negative samples have no Ct value. The positive samples are around Ct 20-25. There is no cross-contamination between MGISTP-3000 Liquid separation samples according to the detection results.

	1	2	3	4	5	6	7	8	9	10	11	12
A	×	O	×	O	×	O	×	O	×	O	×	O
B	O	×	O	×	O	×	O	×	O	×	O	×
C	×	O	×	O	×	O	×	O	×	O	×	O
D	O	×	O	×	O	×	O	×	O	×	O	×
E	×	O	×	O	×	O	×	O	×	O	×	O
F	O	×	O	×	O	×	O	×	O	×	O	×
J	×	O	×	O	×	O	×	O	×	O	×	O
H	O	×	O	×	O	×	O	×	O	×	O	×

Note: ×: negative sample; O: positive sample

	1	2	3	4	5	6	7	8	9	10	11	12
A	/	/	/	/	/	/					21.17	21.15
B	/	/	/	/	/	/					22.49	22.45
C	/	/	/	/	/	/					22.66	22.44
D	/	/	/	/	/	/					22.57	22.63
E	/	/	/	/	/	/					22.49	22.63
F	/	/	/	/	/	/					22.49	22.57
J	/	/	/	/	/	/					22.82	22.58
H	/	/	/	/	/	/					22.32	22.55

Features

1 Highly integrated system

The MGISTP-7000 is a high integrated system. Beyond liquid transfer, it also provides tube recapping, barcode identification and HEPA filtration. Satisfies the need for automatically deal hazardous samples.

2 Reliable and Robust design

- A XYZ-axis robotic arm with accuracy of ±0.1mm.
- Pick tubes by gripping the body of the tube to avoid tube falling off during transfer.
- A powerful continuous running capability. it can automatically recognize incorrectly scanned barcodes tubes and unopened tubes, avoid interrupting current process.

3 Ideal for various closure types tube

- Support simultaneous loading of three different types of tubes.
- Compatible with various closure types tube, such as VTM,Salivette,Faeces container.
- Max compatible rang, Diameter (φ): 11–16 mm, Height (H): 55–121 mm, Volume (V): 5–15 ml.
- Support loading tubes with swabs (up to 10 swabs in one tube).

4 Reliable high-torque de-cap module

- With a high-torque de-cap module minimizes de-cap failure.
- Equipped with infrared sensors and motor encoder to identify unopened tubes.

5 Auto identification

- Able to handle both 1D and 2D barcode, automatic recording barcode and sample position information.
- Compatible barcode formats include 1D: Code 128, Code 93, EAN-8, EAN-13, and Codebar barcodes; 2D: Data Matrix and QR Code Model 2.

6 Precision liquid handlin

- Equipped with a single-channel pipetting head, offer a volume range from 10μl to 1000μl .
- Base on the principle of air displacement, with disposable tips to prevent aerosol contamination.

7 Automation compatibility

- Samples are transferred into ANSI/SBS microplates ≤100mm in height, which can be easily used in downstream liquid handling workstation or extraction system.
- Support preset negative sample and positive control sample position in plate. Users can also design customized template to quickly set up the available positions, match special designed plate-type reagent kit.
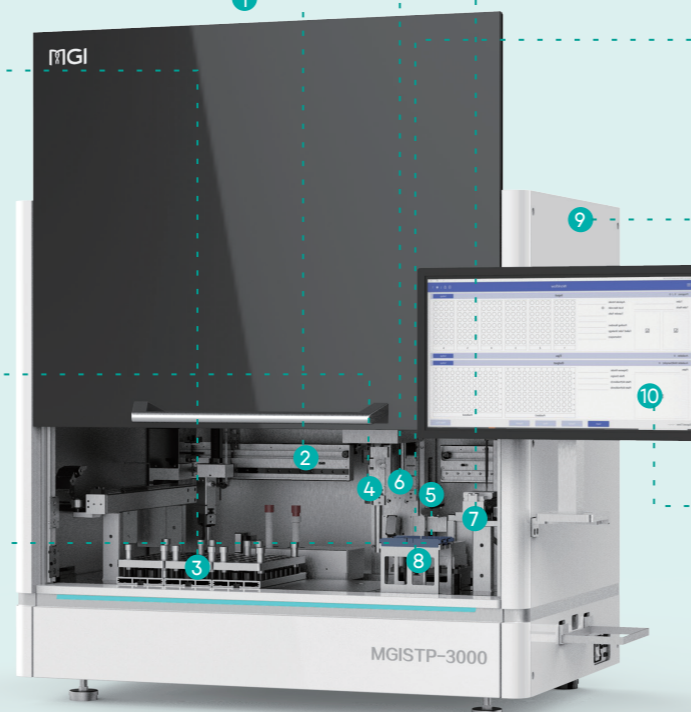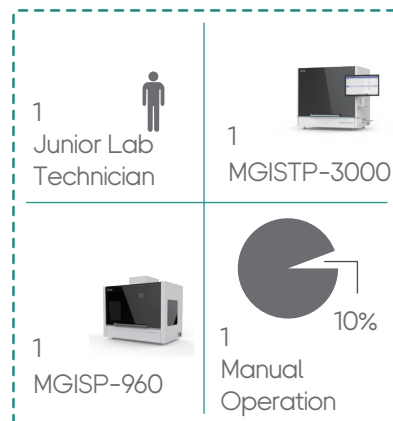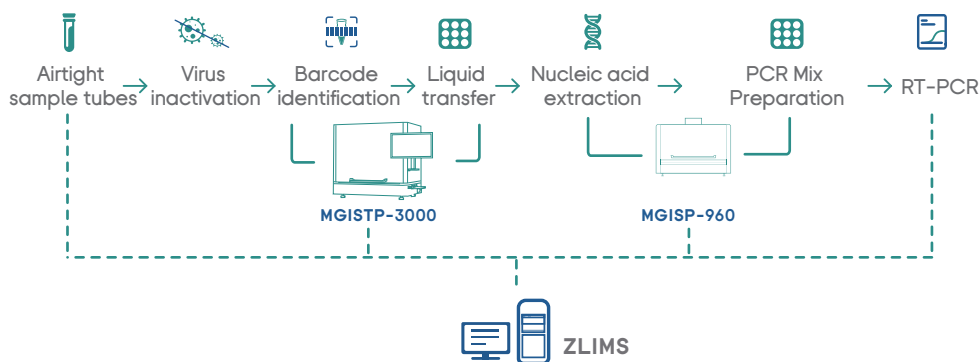
8 Safe and no leakage

- The built-in independent supply air HEPA filter create a clean environment inside of MGISTP-3000, reducing the risk of external pollution.
- The exhaust air HEPA filter provides 99.999% effect at 0.3μm. System create a negative pressure environment to prevent leakage of infectious aerosols.
- The internal air vent at the decapping and sample transfer areas rapidly draws away any aerosols produced, providing a safe working environment for Lab.
- The inlet of exhaust air filtration system is designed close to pipetting and decapping areas, to quickly remove aerosol and avoid cross pollution.

9 Convenient disinfection

- Equipped with three 8W UV lamps, radiation dose is more than 100,000 μW.s/cm².
- Include a pre-programmed cleaning wizard that guides users to start the disinfection procedure to kill viruses and bacteria.

10 Easy-to-use software

- MGISTP-3000 offers a 23-inch touch screen, with a easy-to-use GUI.
- Users can create and simulate protocols in realtime. It helps to off-line learning.
- Provide consumable library management, customer can create or select the correct tubes, according to consumable parameters and images.
- Real-time display running results on the screen.

MGI Automation Sample Preparation Solution

MGISTP-3000 can transfer 192 clinical samples from screw cap transport tubes to 96-Well Microplates in 40 minutes. Each MGISTP-3000 can deal about 3,500 samples in 24 hours. The running status and data can be sent to laboratory computer systems such as LIMS in Kafka message. Using MGISTP sample transfer processing system, MGISP sample preparation system and ZLIMS laboratory information management system together, it will maximize your testing efficiency, providing a automated total solution for your lab.

1 Junior Lab Technician | 1 MGISTP-3000

1 MGISP-960 | 1 Manual Operation — 10%

Airtight sample tubes → Virus inactivation → Barcode identification → Liquid transfer → Nucleic acid extraction → PCR Mix Preparation → RT-PCR

MGISTP-3000   MGISP-960

ZLIMS

Product Specifications

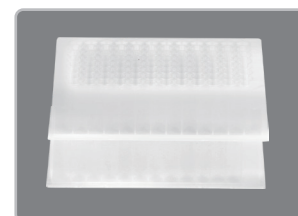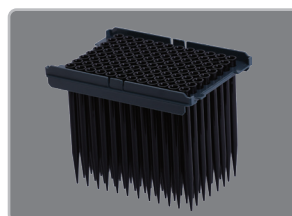| Dimensions	1100mm(W) x 680mm(D) x 1050mm(H)	
Weight	＜200Kg	
Electrical Requirements	Power	100 - 240 V
	Hz	50/60 Hz
	Power Consumption	600VA
	Temperature	19°C ~ 25°C
Operating Environment	Relative Humidity	20% RH ~ 80% RH, Non-condensing
	Atmospheric Pressure	80 kPa ~ 106 kPa
Throughput	Throughput	96 Samples/40 min
Pipetting Precision	Pipetting Method	Base on the principle of air displacement, with disposable tips
	Head	single-channel
	Volume Range	10μl-1000μl
	CV	10μl:<5% ; 100μl:<2% ; 1000μl:<1%
	Accuracy	10μl:<±10% ; 100μl:<±5% ; 1000μl:<±2%
Robot Arm Accuracy	X-Y-Z:±0.1mm	
Barcode Scanner	1D 2D Scanner Sensors	
Control software	GUI with 23" touch screen	
Protection	UV Light	3*8W
	Supply/Exhaust Air Filter	HEPA 99.995% at 0.3μm, Negative Pressure System
Tube Compatibility	Universal fit 5-15ml Transport tube with screwcap	

Ordering Information

Equipment

Cat.No.	Description	Specification
900-000403-00	MGISTP-3000RS Sample Transfer Processing	EA,CE RUO
900-000404-00	MGISTP-3000 Sample Transfer Processing	EA,CE IVD

Consumable

The high-quality Tips help result in optimal accuracy and precision. MGI disposable tips are carefully validated to ensure reliable performance using on MGISTP platform.

Polypropylene deepwell plates exhibit excellent chemical stability. ANSI/SBS compliant, MGI 96-well deepwell plate offers storage security for storing samples, nucleic acid assays or short time storing reagents.

Cat.No.	Description	Specification
1000025011	1000μl black conductive tips, sterile, filtered (5-Pack)	5rack/pack, 8pack/case
1000004644	96-well 1.3ml U-bottom deep-well plate	2 plates/bag

Sample Rack

Our sample racks are made of stainless steel, with elastic bracket inside of each hole, 4X8 format. MGISTP-3000 provide 3 free Rack E. Please choose the right sample racks according to size of your sample tubes.

Description	Cat.No.	Compatible Range				
		Height with cap mm	Height without cap mm	Diameter of cap mm	Diameter of tube mm	Tube type
Sample Rack A	510-001234-00	55-85	44-65	16-22	12-15	Flat bottom
Sample Rack B	510-001236-00	70-105	65-97	16-22	12-15	Flat bottom
Sample Rack C	510-001235-00	95-121	82-108.5	16-22	13-16	Conical bottom
Sample Rack D	510-001347-00	75-108	64-92	16-22	11-12	U bottom
Sample Rack E	510-001453-00	70-105	65-97	16-22	14-16	Flat bottom
Sample Rack F	510-001452-00	55-85	44-65	16-22	14-16	Flat bottom

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