

MolecisionTM **R8**

Fully-auto Molecular Diagnostics System



Your Automated High-throughput PCR "Laboratory" High efficiency, High quality, High integration

From Samples to Results

General Specification

■ MolecisionTM R8

- Throughput: up to 448 tests/8h*
- Occupied area: < 2.2 m²
- On-board capability: 144 sample and 32 QC positions,
 STAT available
- Reagent position: 36 reagent positions are available for 36
 lyophilized assays or 18 liquid assays simultaneously (≥ 500 tests)
- Time to first batch results: ~113 mins*
- Sample types: serum, plasma, reproductive tract sample, swab
- Refrigerated area for QC and PCR reagents

*May be different depending on different assays



Functional Modules



Features & Benefits

High Efficiency

- Complete first batch tests in about 113 mins
- Each batch can run up to 32 results
- High throughput: up to 448 tests/8 hours
- Samples in each sample rack can be defined as STAT and can be tested in priority



Safety Protection Design

- With built-in decapper module for automatic decapping, sample tubes with caps can be loaded directly, to avoid biohazards and reduce manual work
- Full UV lighting coverage and negative pressure design prevent the system from polluting the external environment

Advanced Contamination Prevention Design

- Disposable TIPs with filter and drop prevention design of sample arms prevent cross-contamination
- Extraction station with rotary mixing reduces aerosol pollution caused by violent shaking
- Heating sealing technology to seal PCR plate prevents contamination caused by amplified product leakage
- Three-partition design (Preparation-Extraction-PCR) with single-track flow facilitates management and prevents cross-contamination

Single-track flow

Molecision™ R8 with single-track flow can effectively avoid cross-contamination between modules



Features & Benefits

High integration with small space

The routine PCR laboratory detection process is as follows:

Commonly, routine PCR laboratory has a large footprint. And the PCR testing process is cumbersome and most of work need to do manually, which causes inefficiency and high risk of biohazards.

Easily contaminated

☑ Large space required

- ☑ Cumbersome process
- Manual work necessary



The characteristics of Molecision[™] R8

- High integration: fully-automated system reduces operational burden, users only need to put samples/reagents/consumables into system and then click "start"
- High efficiency: small footprint with <2.2 m² can improve space utilization of the labs
- High quality: excellent analytical performance ensures reliable and accurate results



Internal structure of MolecisionTM R8



Features & Benefits

Excellent Analytical Performance

- Accurately detect small changes in gene expressions as low as 1.5-fold (like 1500 and 1000 copies/well), to ensure high reliability of results
- High linear correlation coefficient with |r|>0.990
- Excellent repeatability with high precision and low CV (<5%) to provide reliable results



User-friendly Design

- From samples to results, only one person is required to operate system
- Continuous reagents/samples/consumables loading saves time
- Multiple sample tubes are supportable, and tubes with caps can load directly with automatic decapping/recapping function
- Auxiliary display system with touch screen makes it easy to know the usage and status of reagents and consumables
- · Warning lights make users directly know about the status of system from a distance
- Comprehensive software function includes: monitoring system status, batch registration, reagent dosage statistics, etc.
- Capable to link with SnibeLisTM or other LIS system
- Support to add and modify the progamme to adapt third-party reagents

R8E1 R8Q1 Standby Standby	Settings Message Screen
Reagent Normal	
Consumables Normal	Ë
Environment	Waste Till
Voltage ; Humidity ;	Thick Weate Liquid Tank A : Extraction Plate Bin : Thick Waste Liquid Tank B :
Snibe	18:37:21 2023-11-10



Product Highlights

1

Small footprint with < 2.2 m² and high throughput with up to 448 tests/8h

2

Advanced contamination prevention design to avoid cross contamination during detection process

3

Comprehensive safety protection design to prevent biohazards to users and the environment

4

Highly integrated and fully-automated system with the simplest operation

5

Excellent analytical performance including high precision, low CV value and good linear correlation coefficient to provide accurate and reliable results

6

User-friendly design covering system and software to ease operational burden

Test Menu

Sexually Transmitted Infection

High risk HPV (13 Types) and 16/18 Genotyping qPCR Assay High risk HPV (15 Types) Genotyping qPCR Assay HPV Type 16/18 qPCR Assay HPV Type 6/11 qPCR Assay HSV Type 1/2 Genotyping qPCR Assay HSV Type 2 qPCR Assay *Ureaplasma urealyticum* qPCR Assay *Neisseria gonorrhoeae* qPCR Assay *Chlamydia trachomatis qPCR Assay

Emerging Pathogens

SARS-CoV-2 RT-PCR Assay Monkeypox Virus qPCR Assay

*Available soon

Technical Specification

Performance Specification	
Principle	Magnetic-bead method & Real-time PCR
Analytical method	Qualitative, quantitative
Throughput	448 tests/8 hours
Walk-away time	~6h (288 tests)
Sample type	Serum, plasma, reproductive tract sample, swab
Emergence mode	STAT function available
Information recognition	QR code, barcode or manual input (for third-party reagents)
Sample arm	Liquid level detection, empty pipetting detection, clot detection, collision detection, bubble detection, one pipetting for multi-sampling, tracking with liquid level and drop prevention

Reagent/sample Capacity		
Sample position	144	
Compatible tube size	Height: 57-108 mm (including caps) Diameter: 12-13 mm or 15-16 mm	
Reagent position	36 reagent positions are available for 36 lyophilized assays or 18 liquid assays simultaneously (≥ 500 tests)	

*Support continuous loading of reagents/samples/consumables

Specification of PCR Module	
Maximum heating rate	6.5 °C/s
Maximum cooling rate	5.0 °C/s
Temperature fluctuation	≤ ±0.1 °C
Temperature indication error	≤ ±0.2 °C
Fluorescence channel	FAM, HEX, ROX, Cy5, Cy5.5, and two reserved channels

Specification	
Power supply	Voltage: 100-240 V Frequency: 50/60 Hz
Maximum power	In all: 2800 VA (R8E: 1250 VA; R8Q: 1550 VA)
Dimension	2417 mm × 908.5 mm × 1586 mm (L*W*H)
Weight	835 kg
Environmental requirement	Ambient room temperature: 15°C to 30°C Relative humidity: 20% to 85% (no condensation) Air pressure: 85-106 kPa Altitude <2000 m

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