Fully Automated Nucleic Acid Detection System

i -FIND

Fully Automated   **Convenience**

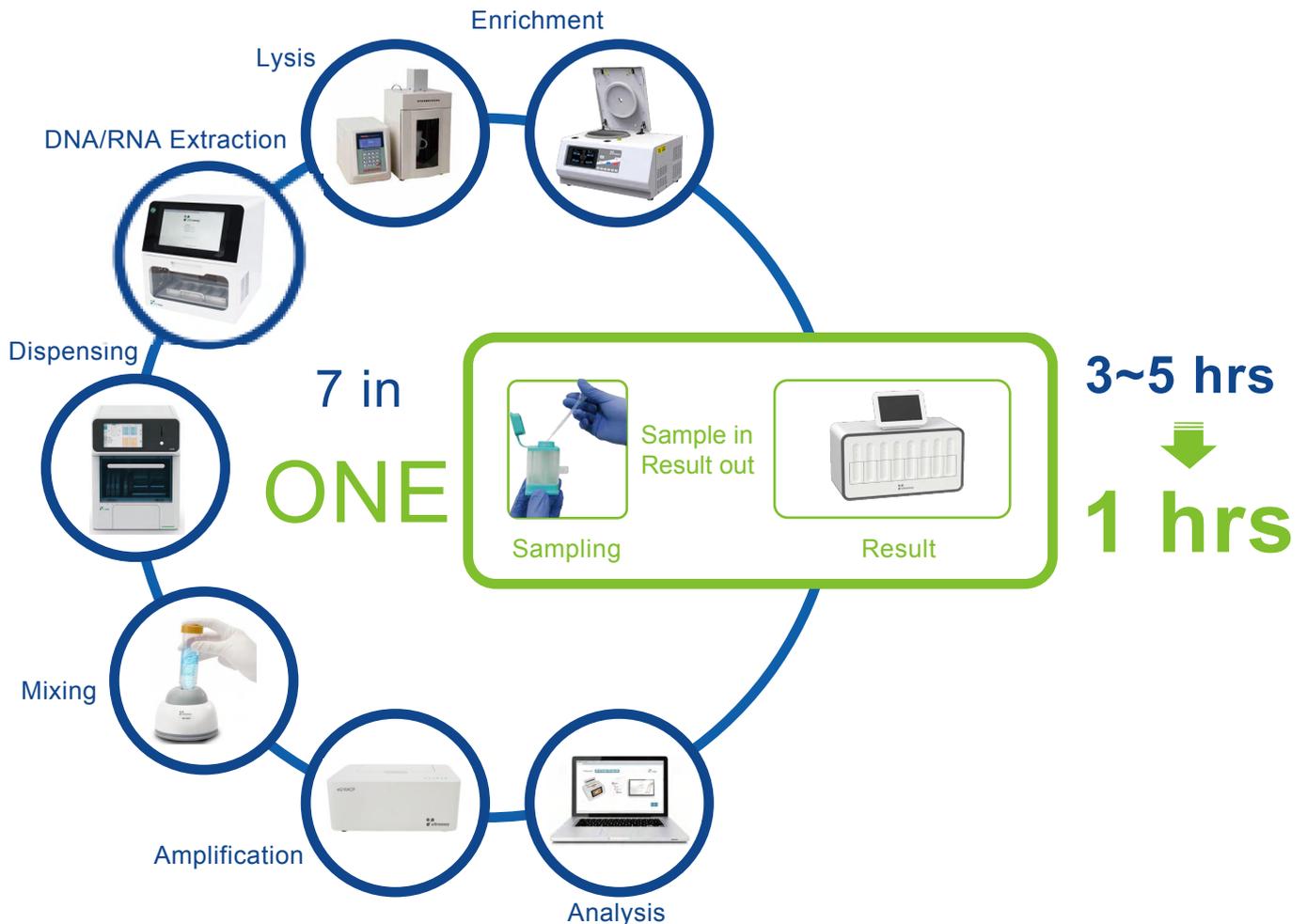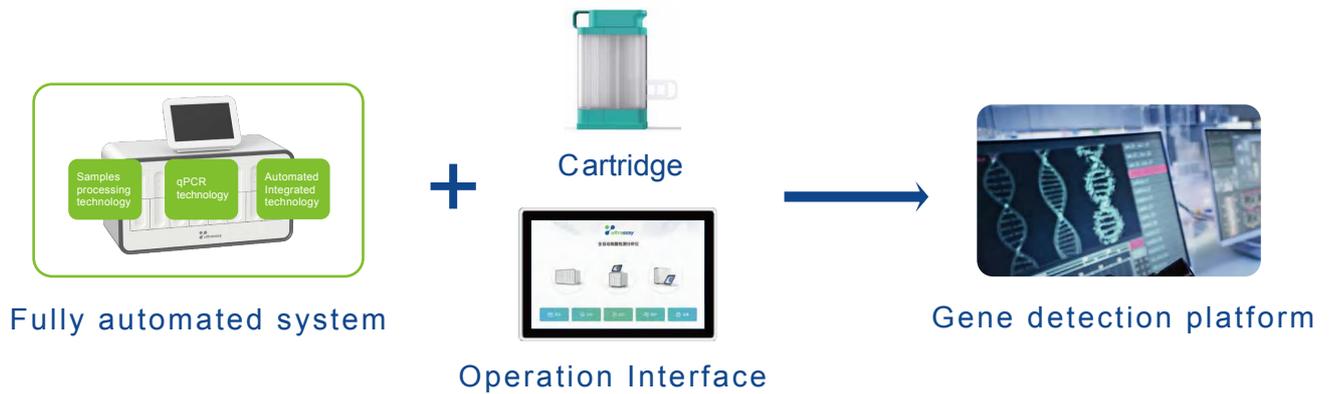**Integrated**   **Stadardization**

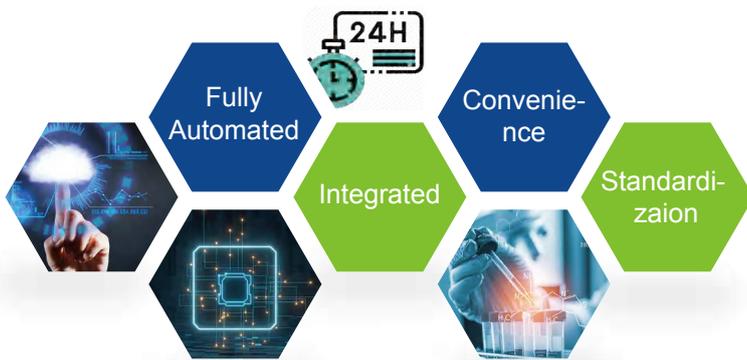A new era of fully automated & integrated in molecular diagnostic!

ultrassay

Redefine molecular diagnostics POCT

Providing efficient, convenient and safe services for genetic testing is the original intention of Ultrassay.

Through the integration of a new generation of nucleic acid detection technology, iFind system subverts the traditional nucleic acid detection process such as complex process, cumbersome operation, time-consuming and high environmental requirements, and truly realizes the fully automated genetic testing of "sample in, result out".

Samples processing technology   qPCR technology   Automated Integrated technology

Fully automated system

+

Cartridge

Operation Interface

→

Gene detection platform

Enrichment

Lysis

DNA/RNA Extraction

Dispensing

7 in

ONE

Sample in Result out

Sampling   Result

3~5 hrs

↓

1 hrs

Mixing

Amplification

Analysis

Product Advantages

Relieve doctor's works

No wait with patients

Fully Automated

★ Samples in, results out

★ One step adding sample, no labor required

Convenience

★ Test on the go, flexiable throughout

★ Report in 1 hour

Intergated

★ Sample processing, DNA/RNA Extraction, System Construction,PCR Amplification, All In One

Standardization

★ Lyphilized reagents, pre-packed

★ No labor required

☐ One step of adding samples only, no labor required throughout all processes;

☐ Fully automatic detection of pathogens and human genes can be achieved within 30 minutes at the earliest.


Sample Collection

Sample adding

Detection

Technical Characteristics

Microfluidic Cartridge

- Full closed cartridge , Anti-contamination
- Full automated operation,no labor required
- Lyophilized reagents, 2 years validity stored at room temperature

Ultra-fast temperature change

- Lamellar reaction chamber combined with sonic thermal conduction and temperature control technology
- Max. ramping rate exceeds 10℃/s
- Min. runing time<30mins
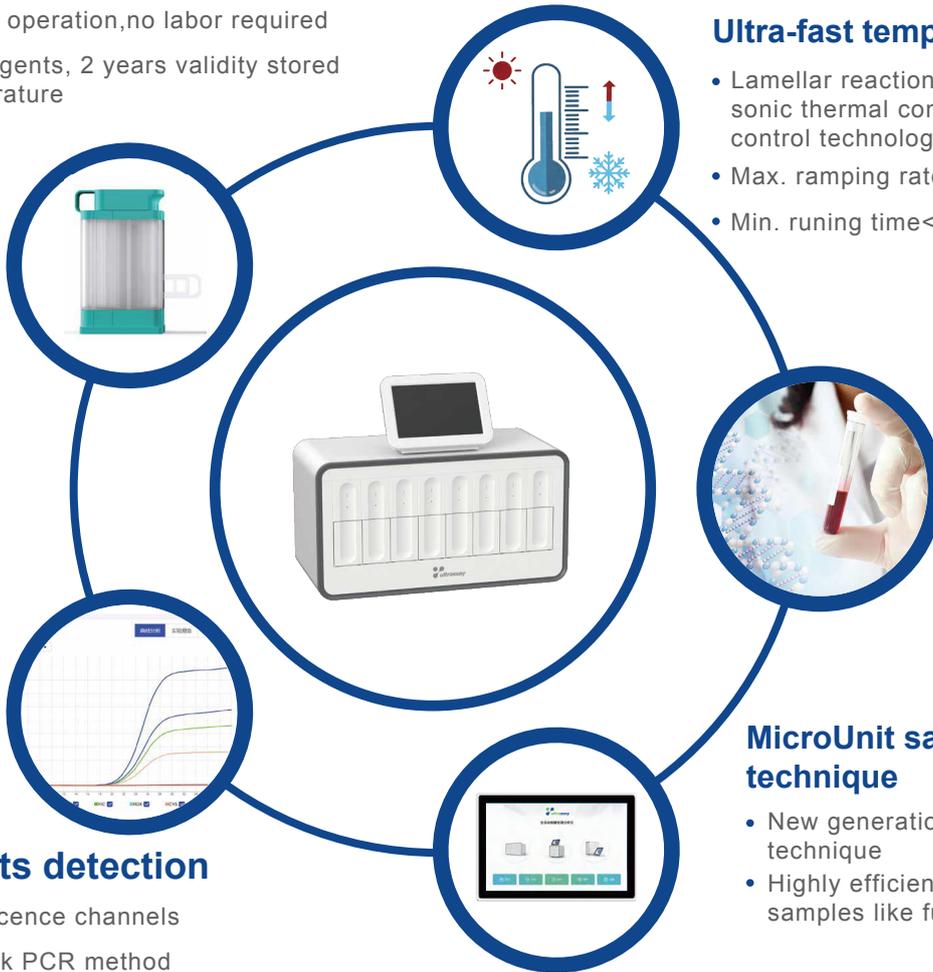
Multi-targets detection

- 6 color fluorescence channels
- Nest-framework PCR method
- Fluorescent probe melting curve technique
- More than 10 targets detected in a single tube

MicroUnit sample processing technique

- New generation MicroUnit extraction technique
- Highly efficient in processing of hard samples like fungi and MTB etc.

Automated analysis

- Quickly complete the program setup just one touch
- Automated analysis and output the results

Microfluidic technique

Highly efficient processing

Optical coaxial sub-control technology

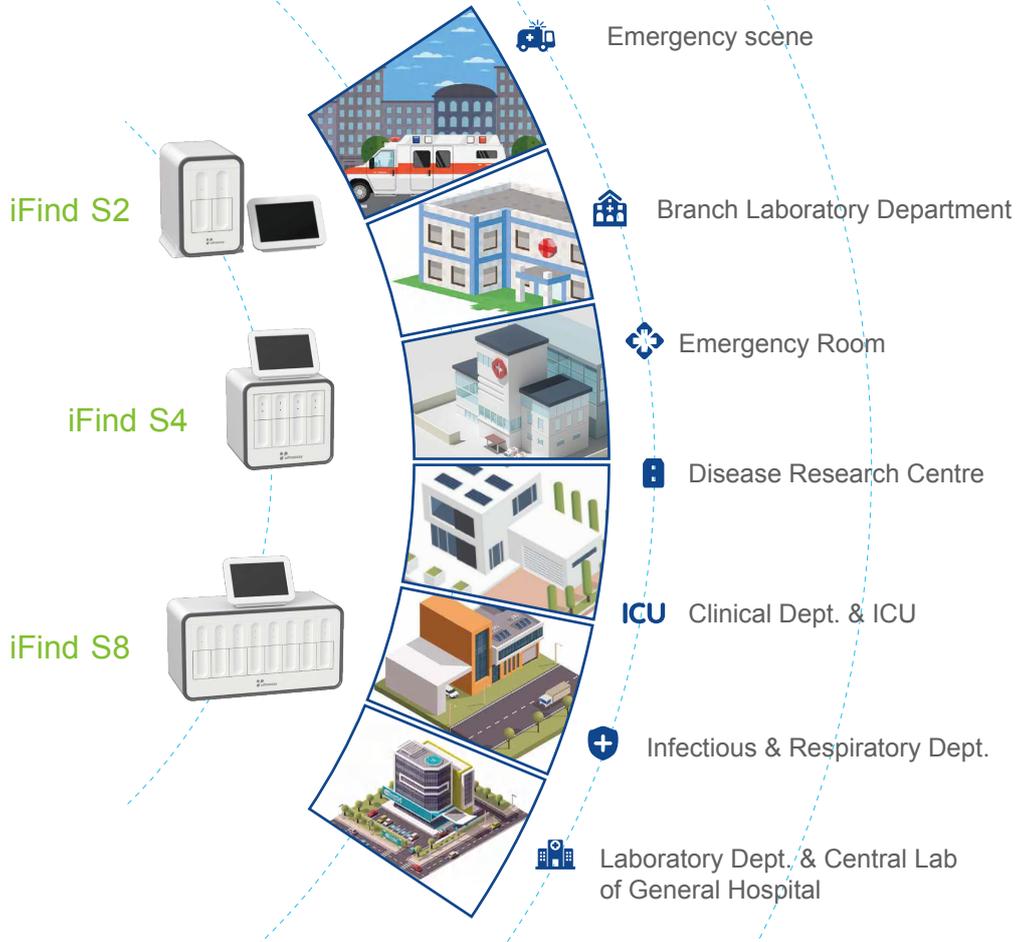Sonic thermal conduction technology

Full closed cartridge, Anti-contamination

Lyophilized reagents

Application Scenarios

iFind S2

iFind S4

iFind S8

8 Hrs Capacity

| iFind S2 | iFind S4 | iFind S8 |
| 12 | 24 | 48 |

- Emergency scene
- Branch Laboratory Department
- Emergency Room
- Disease Research Centre
- **ICU** Clinical Dept. & ICU
- Infectious & Respiratory Dept.
- Laboratory Dept. & Central Lab of General Hospital

Application Cases

By using the iFind system and cartridge to pass through nest-framework PCR, The method and fluorescent probe melting curve technology are used to identify Mycobacterium tuberculosis complex and detect rifampicin resistance mutations in the rpoB gene resistance region, which shortened the result reporting time by 20% compared with similar methods recommended by WHO.

Testing result comparison		WHO recommended method	
		Drug resistance	Sensitivity
iFind testing result	Drug resistance	15	0
	Sensitivity	0	8

Compliance rate: 100%

Testing result comparison		WHO recommended method	
		Positive	Negative
iFind testing result	Positive	23	0
	Negative	0	10

Compliance rate: 100%
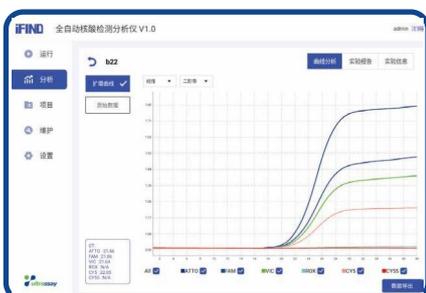
Product Parameters

Specification	
Thermal parameters	
Running Mode	Each module operates independently
Temperature Control Mode	Peltier intergrated light and heat
Max. Heating Rate	≥12℃/s from 50℃ to 95℃
Max. Cooling Rate	≥9℃/s from 95℃ to 50℃
Temperature Accuracy	±0.1℃
Temperature Uniformity	±0.1℃ @60℃
Optical parameters	
Exitation Light Source	Long life single color LED Module, maintainless
Optical Sensor	High sensitivity Photodiode
Color Wavelength	Excitation light:404-650nm, Emits light: 460-765nm (Can be freely combined)
Fluorescence parameters	
Repeatability	CV≤3%
Precision	CV≤5%
Interference in different fluorescence channel	The detected values of other channel fluorescence are not higher than the fluorescence threshold of targeted channel
Sample detection repeatability	CV≤3%
Fluorescence intensity detection linear	[r]≥0.990 Within 5 gradients
Sample linear correlation	[r]≥0.980 Within 5 gradients

Cartridge	
Material	PP
Frequency	Disposable
Sampl processing mode	MicroUnit technique
MTB and drug resistance testing	Nest-framework PCR & Fluorescence probe melting curve
Reagents	Lyphilized microsopheres pre-packed
Safety	The top cover seals against aerosols

Basic Information			
Model	iFind S2	iFind S4	iFind S8
Dimension	260x320x365mm (LxWxH)	370x320x365mm (LxWxH)	650x320x365mm (LxWxH)
Weight	15kg	27kg	50kg
Power Supply	100-240V±10% 50/60Hz		