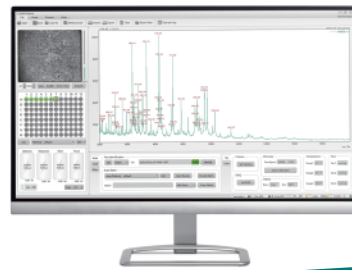


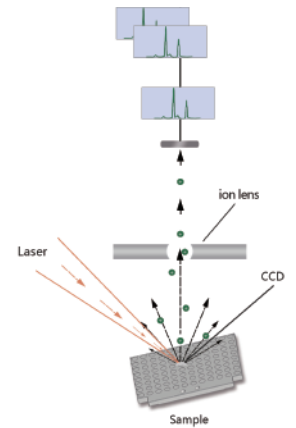
Autof  
*MS* 2000

# Automated Mass Spectrometry Microbial Identification System

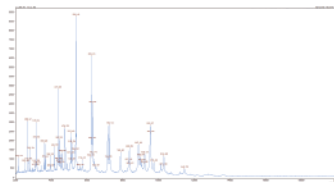
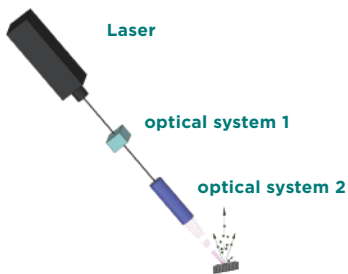


## MALDI-TOF MS

- Since the 1980s, mass spectrometry technology has become a powerful method for protein analysis.
- Now, as an important member of mass spectrometry, MALDI-TOF MS (Matrix Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry) has become key to the microbiological clinical laboratory for the identification of pathogenic bacteria.
- MALDI-TOF MS with its fast, accurate, cost effective, and constantly enrich the database and so on, which greatly improves the efficiency of clinical microbiology identification. Especially microaerobes, anaerobes, mycobacteria and fungi.



## Unique mass spectrometry optical system



The principle of MALDI is to irradiate the co-crystal film formed by the sample and the Matrix with a laser, The matrix absorb energy from the laser and transfer it to biomolecules, so that the sample molecules are ionized.

## Features

### Fast detection speed >>>>

Solid-state laser with a high repetition, optimal path algorithm which only takes 7 minutes to ID a 96 spot target plate.

### Long laser lifetime >>>>

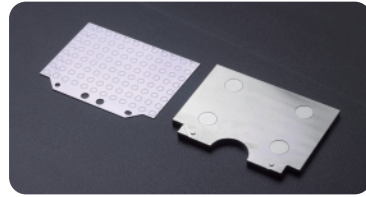
The instrument is equipped with a high-performance solid-state laser, which has a lifetime of 7 billion shots.

### High-performance beam shaping system >>>>

Successfully solved the technical limitation of solid-state laser in microbial detection, achieving the perfect balance of performance, lifetime and speed.

## Intelligent tandem vacuum system

- Oil-free membrane pre-vacuum pump with smaller size, lower noise, and no risk of oil leakage. High-throughput turbomolecular pump, fast vacuum pumping speed, vacuum degree up to  $10^{-7}$ mbar
- The Intelligent tandem vacuum system can greatly extend the lifetime of the molecular pump and shorten the waiting time for entering the target
- Perfectly solve the problem that the Oil-free membrane pre-vacuum pump cannot match the high pumping speed molecular pump under the condition of low pumping speed



## Target Plate

- Split type target holder and target plate, no cross-contamination.
- Special target surface treatment technology, makes result more accurate.
- 96-well.

## Instrument characteristics

### Multi-species strain

1. ID library contains more than 5,000 species and 1,000 genera, and a total of more than 16,000 strain spectrums.
2. The fungus database including more than 450 species, 100 genera, and a total of more than 2000 microbial standard spectrums.

1. Perfect match of pre-vacuum pump and molecular pump
2. Unique optical control unit.
3. Intelligent tandem vacuum system.

### Excellent instrument configuration

### High-efficiency identification

1. Rapid sample identification, 96 spot.
2. Unique identification algorithm, single spectrum matching within 0.1 seconds.

1. Database library dynamic online update supported .
2. Remote diagnosis available.
3. Bi-directional LIS connection supported.

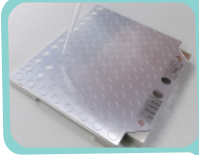
### Multi-connection

## Direct method workflow

**01** Pick an isolated colony



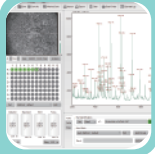
**02** Smear on the target slide and add matrix



**03** Load to *Autof MS 2000* system



**04** Software generates spectrum automatically, and match against reference database to give ID result



**05** Final review by microbiologist



## Workflow identification from positive blood culture bottles

1ml blood from positive blood bottle



Add Pretreatment Reagent



Remove the supernatant. Add Lysate, mix well.

Centrifuge for 10 minutes

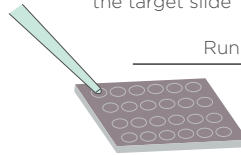


add 1.0mL of Saline, mix well, and Centrifuge, repeat that two times

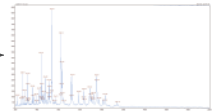
Remove the supernatant



Centrifuge for 1 minute, add supernatant to the target slide



Run on MALDI system



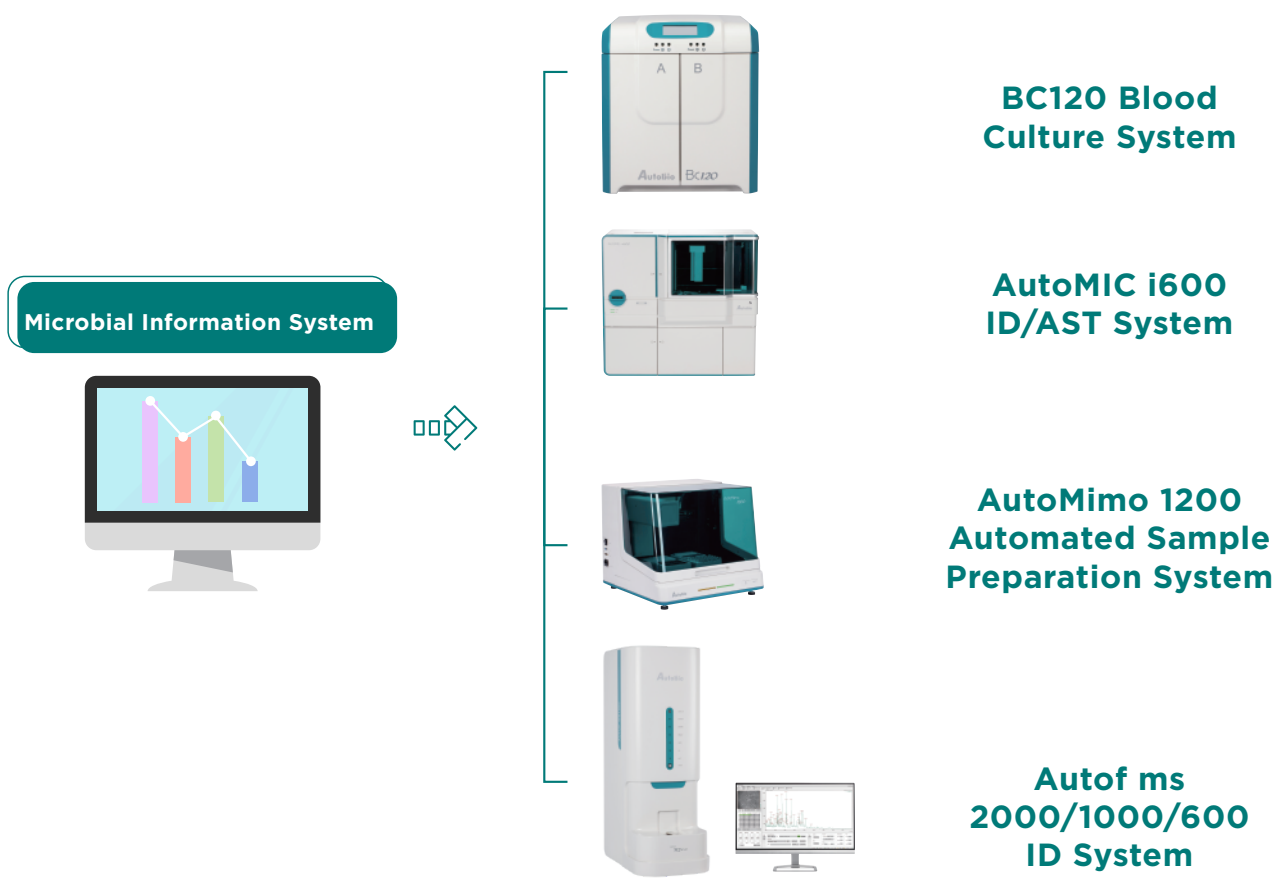
\*Refer to the manual for detailed work flow

	Autof MS2000	Autof MS1000
Laser	355nm solid-state laser • 0-1200 Hz repetition rate • 960 samples/hr • 7 billion laser shots	377nm nitrogen laser • 0-60 Hz repetition rate • 300 samples/hr • 400 million laser shots
Vacuum system	1.0x10 <sup>-7</sup> mbar Oil-free membrane pre-vacuum pump and turbomolecular pump	1.0x10 <sup>-7</sup> mbar 1 turbomolecular pump+ 1 mechanical pump
L x W x H	450mm*705mm*1250mm	450mm*705mm*1280mm
Weight	110kg	101kg
Common features	<ul style="list-style-type: none"> <li>• 0.01µm filter, 99.99% microorganisms can be filtered.</li> <li>• Autof Acquirer (with rapid ID function report within 0.1 second).</li> <li>• Customizable database.</li> <li>• Innovative optical design.</li> </ul>	

## Accessories and Reagents

Cat No.	Description	Specification
MSA01	Sample pretreatment reagent	100T
MSA02	Calibrator for AUTOF MS	80T
MSA03	CHCA matrix for use with AUTOF MS	0.5ml*4Bottles
MSA04	Positive Blood Cultures Pretreatment Reagent	60T
MSA05	Filamentous Fungi Pretreatment Reagent	120T
31.03.04.0009	Target Slide	10 pcs
31.03.04.0010	Target Slide Holder	2 pcs

## Autobio Microbiology Automation solution



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