

CHONGQING TIANHAI MEDICAL EQUIPMENT CO., LTD.

UW-2000

Integrated automatic urinalysis workstation

Simple but comprehensive operation mode, leading a new page in urinalysis field



Utilizes fully automatic operation and produces comprehensive urinalysis results that can be produced with only one sample suction at a time.

Single sampling pipette is used to ensure consistency between urine sediment and urine dry chemistry test results.

Comprehensively ensures the test result traceability of urine dry chemistry and visible components

Chongqing Tianhai Medical Equipment Co., Ltd.

Address: No. 106-5-4, Keyuan 3rd Road, Jiulongpo District, Chongqing 400039, China

Tel: 86 23 86582990 Fax: 86 23 68185187

E-mail: victor.ma@c-thme.com Mobile: 86 186 0233 9293



4006231617



Urine dry chemistry analysis

- **Test routine 10/11/12 parameters**

Test parameters: 12/11/10 items (Glucose, Protein, Bilirubin, Urobilinogen, PH, Red Blood Cell, Ketone, Specific Gravity, Nitrite, White Blood Cell, Vc and Albumin)



Utilizes the world's leading multi-wavelength reflection analysis method for increased precision of test results. Automatically adapting quantitative sample addition precision technology precisely controls the sample volume of each test module.

Utilizes a roller-mechanism urine strip dispenser for ensuring automatic and uniform urine strip conveyance, and uniformly drips sample urine onto test strips to avoid cross-contamination.

Meets the strict requirements of clinical trials.

- **Increased precision**

Uses a special multi-wavelength reflection analysis method to improve precision of test results

- **Fast processing**

10*10 sample rack
50 samples can be put onto the machine
240 samples can be tested in one hour

- **More diagnostic data for clinical trials**

Testing routine uses 10/11/12 urine-testing parameters and provides more diagnostic data for clinical trials

- **Precise quantitative dripping**

Using precise quantitative dripping to avoid cross-contamination among test parameters, urine samples are separately dripped onto each test parameter after urine samples are collected.



- **Automatic mixing**

Automatic sample mixing is done before the urine sample is collected into the machine to avoid inaccuracy caused by previous sample residue.

- **UW-2000 Specifications and Technical Parameters**

Throughput: 240 samples / hour (only the urine dry chemistry portion)

Test principle: Multi-wavelength reflection method

Sample rack capacity: 100 samples

Sampling mode: sample rack type and the intelligent memory card are changeable

Urine strips: manufactured by Tianhai

Data communication: RS-232 port

Connecting:
(1) It can be connected with US-series urine sediment analyzers manufactured by Tianhai to form a urinalysis workstation and print integrated test reports
(2) LIS function

Roller-type urine strip dispenser

Utilizes a roller-mechanism urine strip dispenser that can process 200 urine strips at a time.



Innovative touchscreen interface

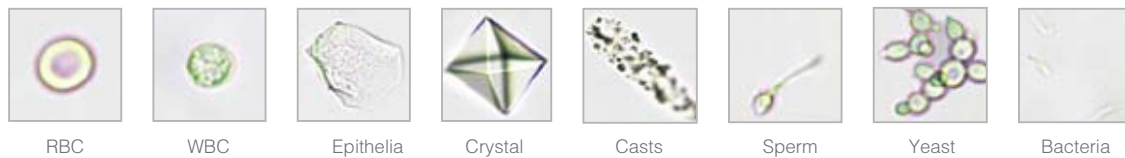
Utilizes embedded Windows CE operating system with built-in antivirus software and an 8-inch touchscreen for reducing errors caused by mistakes during manual operation to ensure stability and high efficiency.



Urinary sediment analysis

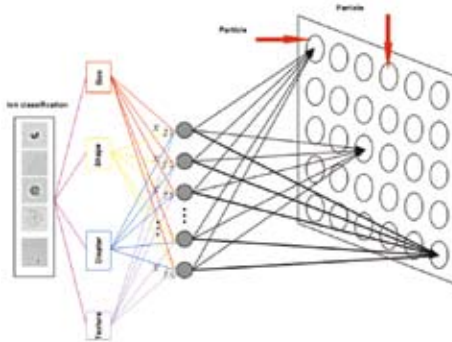
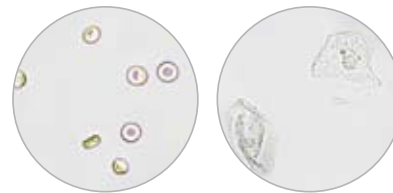
Visible components analysis (quantitative analysis)

combined technology of fully automatic numerical control microscanning with the technology of particle intelligent perception recognition to classify precisely and quantitatively analyze several kinds of urine visible components. Actual images are provided for information storage. Manual reexamination is seldom needed. Captured images can be directly accessed from screen for the use of traceability reexamination.



- High definition images guarantee recognition effect

A highly transparent quartz crystal cell-counting instrument is utilized for the system. An LED with special wavelength properties is used as the light source and works in tandem with a high definition CCD camera, so that captured images of biological components are easy to see, which is effective for ensuring that biological components get recognized by the system.



- Fully automatic operation process

Utilizes a conveyer belt for sample transportation and uses reflection-type sample rack testing, automatically adjusting whether there is a sample available or not. Sample rack can be placed anywhere in the sample collection area, with no need to press any button. Sample detection and collection is automated, with a sample testing capacity of over 50. It is highly efficiency and easy to operate.

- Main Technical Parameters

Test principle:	Urine dry chemistry + urine sediment analysis
Throughput:	70-100 samples/hour
Sample volume:	Less than 2ml
Report type:	Graphical report
Memory capacity:	more than 50,000 and expandable
Power supply:	100-240V/AC 50/60 HZ
Dimensions:	Length*Width*Height:700mm * 625mm*530mm
Mass:	70Kg



**CHONGQING
TIANHAI MEDICAL
EQUIPMENT CO., LTD.**

UDC-2020Q

Fully Automatic Urine Chemistry Analyzer

Automatically adapting quantitative sample dripping- for precise test results



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- **Test routine 10/11/12 parameters**

Test parameters: 12/11/10 items (Glucose, Protein, Bilirubin, Urobilinogen, PH, Red Blood Cell, Ketone, Specific Gravity, Nitrite, White Blood Cell, Vc and Albumin)



Utilizes the world's leading multi-wavelength reflection analysis method to improve the precision of test results. Takes advantage of precision technology of automatically adapting quantitative sample addition for precisely controlling the sample volume of each test module. Utilizes roller-type urine strip case to avoid cross-contamination. Meets the strict requirements of clinical trials.

- **Increased precision**

Uses a special multi-wavelength reflection analysis method to improve precision of test results

- **Fast processing**

10*10 sample rack
50 samples can be put onto the machine
240 samples can be tested in one hour

- **More diagnostic data for clinical trials**

Testing routine uses 10/11/12 urine-testing parameters and provides more diagnostic data for clinical trials

- **Automatic mixing**

Automatic sample mixing is done before urine samples are collected to avoid inaccuracy caused by previously-tested sample residue.

- **Precise quantitative dripping**

Using precise quantitative dripping to avoid cross-contamination among test parameters, urine samples are separately dripped onto each test parameter after urine samples are collected.

The amount of urine sample volume being dripped onto test

parameters is determined by the reagent volume of each reaction module to ensure adequacy and uniformity of each reaction.



- **UDC-2020Q Specifications and Technical Parameters**

Throughput: 240 samples / hour (only the urine dry chemistry portion)

Test principle: Multi-wavelength reflection method

Sample rack capacity: 100 samples

Sampling mode: tube rack type and the intelligent memory card are changeable

Urine strips: manufactured by Tianhai

Data communication: RS-232 port

Connecting: (1) It can be connected with US-series urine sediment analyzers manufactured by Tianhai to form a urinalysis workstation and print integrated test reports

(2) LIS function

Roller-type urine strip case

Utilizes a roller-type urine strip moving case that can process 200 urine strips at a time

Innovative touchscreen interface

Utilizes embedded Windows CE operating system with built-in antivirus software and an 8-inch touchscreen for reducing errors caused by mistakes during manual operation to ensure stability and high efficiency.



**CHONGQING
TIANHAI MEDICAL
EQUIPMENT CO., LTD.**

US-2025A/US-2020A

Fully automated urinary sediment analyzer

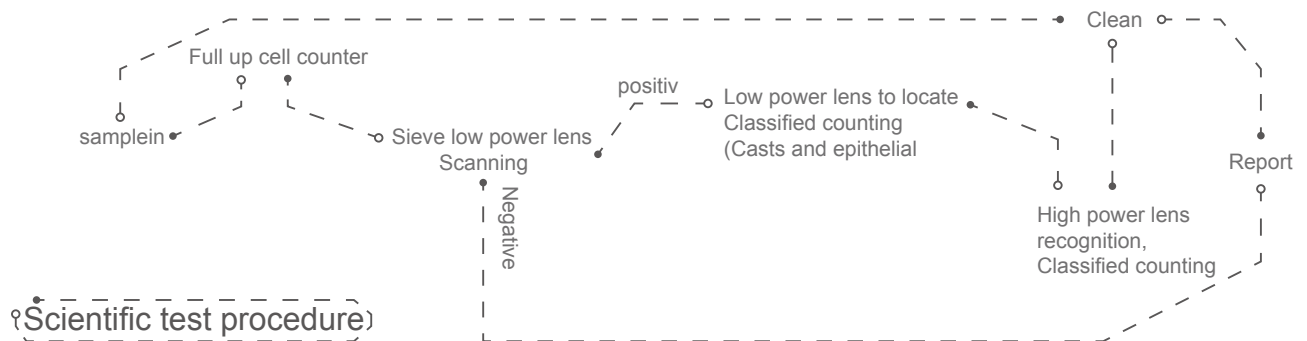


US-2025A



US-2020A

● Test Processing



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- **Testing items**

Cells, Casts, Crystal, Bacterium, Epithelial cells and other components from Clinician's request.

Main Characteristics

- **Introduction of the Device**

Automatically collects and mixes samples, automatically captures and scans images, and also automatically cleans the entire machine.

- **High Degree of Automation**

Combines intelligent perception technology and multi-category classifier integration technology to test and count particles in urine. Utilizes a fully-automatic "Walk Away" mode, for set-it-and-forget-it convenience.

- **Scientific Test Processing**

Utilizes large area scanning with low-powered magnification, automatically targets positive samples and eliminates negative samples. Positive samples are then tracked and transferred to the microscope to be analyzed via high-magnification lenses, effectively increasing the detection rate of positive samples.

- **High definition Image Capture**

Uses LED as the light source, taking advantage of the short-wavelength and stable color temperature features of LED. Images are captured at high-resolution, using a professional-grade CCD camera, making the outlines of cells highly visible.

- **Automatic recognition of visible substances**

Utilizes the technology of IntelliSense and the multi-classifier fusion techniques. Classifies and counts various urine substances. Gives warnings on the detection of suspicious substances. Utilizes artificial identification auxiliary to make the process of urine microscopy automated and streamlined.



- **Two-Channel Quartz Crystal Counting Instrument**

An independent dual-channel urine testing system, utilizing two alternate channels that have two roles: one for testing and the other for sample collecting. The dual-channel feature avoids the time-consuming task of cleaning the testing pipe of sample residue, and improves the detection speed and efficiency of the instrument.

US-2020A

US-2025A

Testing Channel: Single channel testing system

Independent dual-channel urine testing system, alternate testing, rapid testing

Throughput: <60-80 items/hr.

<80-120 items/hr.

Percent Error of Accuracy: <5%

<5%

Percent of Pollution: <2%

<2%



CHONGQING TIANHAI MEDICAL EQUIPMENT CO., LTD.

US-2012S Urine Sediment Analyzer



● Product Introduction

Specially designed for clinics and light-duty urine sample testing

Simple to operate and accommodates for any laboratory

Automatic sampling and testing

Has stable performance, produces clear images, automatically recognizes particles in urine, and produces precise test results.

● Technical specifications

Test items:	RBC, WBC, EP, Bacillus and mould
Sample volume:	2 ml uncentrifuged urine, sample suction volume is 0.5ml
Throughput:	30sample/hour
Sampling method:	manual sampling, auto mixing, and sample suction
Test sensitivity:	< 1 sample/ μ l
Precision error:	< 5%
Pollution coefficient:	< 2
Work environment:	10-30°C, humidity < 80%
Data storage:	unlimited
Test report language:	English
Connecting:	1. It can be connected with UDC-series urine analyzers manufactured by THME or other brand-name urine analyzers and print integrated test reports 2. LIS function
Power supply:	AC 220V 50Hz
Power:	200W
Machine dimensions:	400mm×430mm×410mm
Weight:	15KG

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Performance Characteristics

- Fully automatic numerical control and optical amplification system, quick scanning, and testing technology

Special optical amplification system, a proven microscopic test method, and modern microcomputer control technology are utilized for quick sample scanning and testing.

- High definition image processing and particle auto-recognizing software

High definition CCD is utilized for quick image capturing. Outlines of tangible cells are very clear and recognizable. Intelligent and integrated perception and multiple classifier are adopted to precisely count the quantity of tangible particles.

- Intelligent and automatic sampling procedure

Just putting the urine cup onto the machine without pressing any button. Sampling is done automatically after the cup is detected by infrared.

Urine samples do not need to be centrifuged or preprocessed. After directly putting the urine cup with fresh urine onto the machine, the urine sample can be automatically mixed via sample suction needle. No manual operation is required during the whole test process.

- Emergency test

Priority samples can be tested at anytime.

- Effective cleaning system

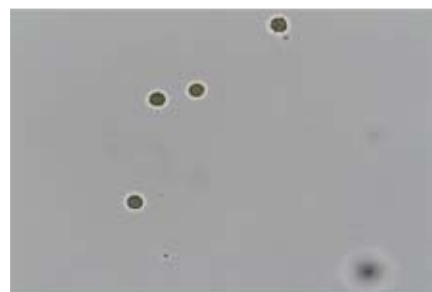
Spring-type cleaning system is utilized. The outer and inner walls of the suction needle are automatically washed to ensure the accuracy of each test.

- RS-232 Port

It can be connected with any brand-name of urine analyzer and also be connected with an LIS system to produce paperless reports.

- Complete report

Report contains comprehensive and illustration-rich integrated data (dry chemistry and tangible particle counting). Reports are sent automatically as well.



CHONGQING TIANHAI MEDICAL EQUIPMENT CO., LTD.

US-2026

Fully Automated Urinary Sediment Analyzer



- High-speed intelligent "Golden Standard" urinary sediment analyzer
Made for large volume sample testing

High-speed

four-channel high-speed testing system; throughput reaches 120 samples / hour; especially made for large volume sample testing.

Intelligence

Combines intelligent perception with multi-category classifier integration to test and count particles in urine. Can be put on "walk-away" fully automated mode.

Golden standard

The "Golden Standard" microscopic test method is utilized to produce real, objective, accurate, and effective tests results.

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US-2026

“higher definition, more accurate”

- Four breakthroughs

1. Four-channel high throughput of 120 samples/hour; especially made for large volume sample testing
2. High-definition imaging system for ensuring the stability of the focus layer and producing clear images
3. Optimized tubing, with dry/wet separation, for a reliable solution tubing system
4. Fully-enclosed microscope designed to minimize the effects of outside factors on test results.

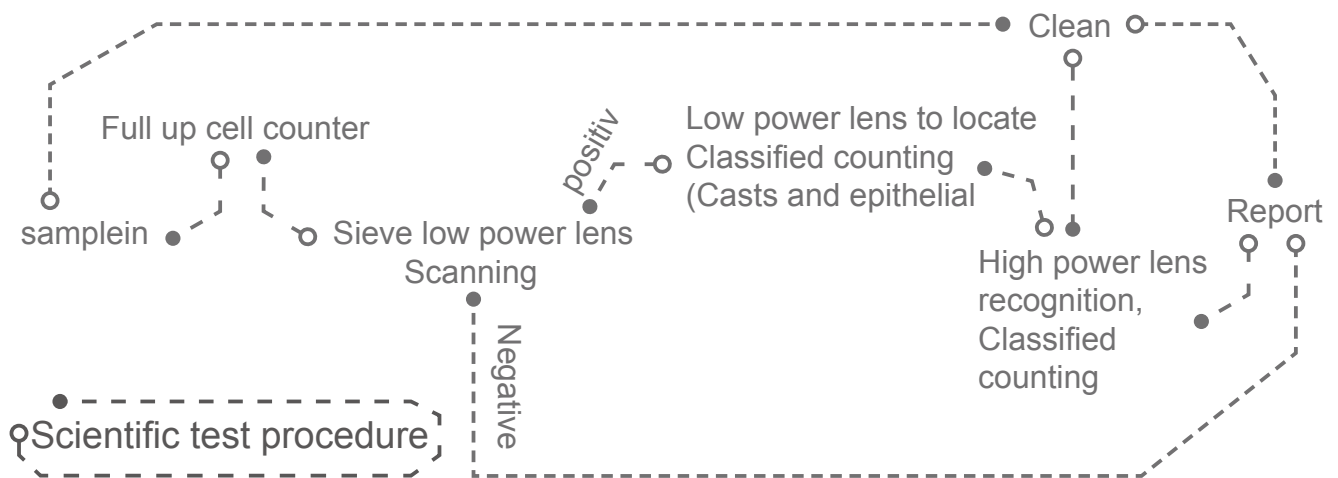


- Scientific nature

No missing visible components
 Large scanning scope: low power lens, 32 fields of view



- Test Flow Chart



● Technical Parameters

S.N.	Items	Technical parameters	Remarks
1	Test parameters	RBC、WBC、EP、Cast、Crystal、Yeast、Sperm	
2	Test method	Static cell-counter microscopic test method	
3	Classification method	combined technology of intelligent perception and multi-category classifier integration	
4	Test speed	120/hour	
5	Tube rack capacity	100samples	
6	Sample treatment	No need to be centrifuged or dyed	
7	Sample-in method	Tube rack sample-in, auto mixing and sample suction	
8	Sample volume	Minimum volume: 2ml non-centrifuged urine(when connected with urine chemistry analyzer: 5ml non-centrifuged urine); suction volume: about 1ml	
9	Data communication	RS-232interface	
10	Report type	English report	
11	Urine chemistry analyzer Connection function	(1) it can be connected with UDC series urine chemistry analyzer made by Tianhai to form a urinalysis workstation and print integrated test report (2) LIS function	
12	Power supply	AC 110-220V 50Hz	
13	Dimensions	572mm×513mm×562mm	
14	Weight	45kg	



US-2026+Siemens Atlas

This information is for reference only, the day the sea has the final say



CHONGQING TIANHAI MEDICAL EQUIPMENT CO., LTD.

MR-100B Hemodialysis Machine



- Online Liquid Formulation
- Misce Bene
- Precise Conductivity Detection
- Comfortable Dialysis
- Original creation of weighing and measuring pump to control ultrafiltration with high precision
- Microcomputer with double systems to ensure the safety of dialysis process

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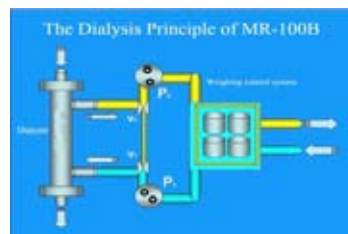
Product Features

- **Microcomputer with double systems to ensure the safety of dialysis process**

Two sets of completely independent microcomputer control systems are adopted and the two set of parameters generated during the dialysis process will be compounded constantly, which are used to ensure the safety of the dialysis treatment

- **Original creation of weighing and measuring pump to control ultrafiltration with high precision**

Gravimetric sensor and measuring pump with high precision are adopted as control system of the dialysis ultrafiltration, which are used for ensuring auto detection, auto correction of deviation, precision of the whole dialysis treatment process



- **Color Liquid Crystal Screen**



Color liquid crystal screen with high quality is adopted as operating screen and attached with marginal keys

- **Intelligent Self-Diagnosis Panalarm**

During the treatment process, there will be self-diagnosis and self-detection functions available and the reason of the alarm will be displayed on the screen

- **Quick Self-inspection Function After Being Turned On**

Color liquid crystal screen with high quality is adopted as operating screen and attached with marginal keys

- **Diversified Treatment Mode**

According to medical care staff there is graphical, curve and personalized treatment modes available for option. Medical care staff can choose ultrafiltration from those ultrafiltration curves or freely adjust the concentration of the conductance according to the condition of each patient.



- Fulfilling the Function of Cleaning, Disinfection and Calcium Removing by Just Pressing One Single Button

Fully automatic cleaning, heat sterilization, chemical calcium removing process, no need personnel to stay behind to take care of, and the instrument will automatically come into standby status

- Sounds an alarm when there's a power supply problem

It will perform self-diagnosis and alarm to remind medical staff when abnormal power supply shortage

- Main Functions

It can be used to hemodialysis, pure ultrafiltration, high-low sodium dialysis, high flow capacity dialysis, high efficiency dialysis and other various treatment solutions

Kt/V calculation function: carbamide dynamics mould online measuring clearance adopted to comment the sufficiency of the dialysis treatment



☆ Automatic recharge, cleaning function and preparation before using the machine to simplify the operation process of the medical staff

☆ Flexible upgrading function

☆ Transmembrane tracking detection function to avoid dialyzer membrane breakage

☆ Precise dialysis and ultrafiltration without limitation to dialyzer's parameters and brand

☆ Several kinds of dialysis fluid rates for option

☆ Automatically store treatment data

☆ Completed alarm and supervision function to ensure dialysis safety

☆ Backup battery to prolong 15-30 minutes for blood return when power failure



MR-100B Technical Specifications

- Routine Specifications

Dimension	1450x520x460mm
Net Weight	70KG
Water-inPressure	5-35℃
WaterQuality Requirement	Comply to YY0572 or AAMI Standard
Maximum Height of WasteFluid Out Pipe	20cm
Maximum Height of Enhanced Fluid Suction	50cm
Floor for Putting	flat
Power Supply	AC220V 50/60Hz
Input Power	Maximum 2.5KW
WorkTemperature	10-40℃

- Extracorporeal Circulation Blood Tubing

VenousTension	
Display Scope	0kPa-66.7kPa (0mmHg-500mmHg)
Index Precision	± 1.3kPa (± 10mmHg)
Arterial Tension	
Display scope	-40kPa-40kPa (- 300mmHg-300mmHg)
Index Precision	± 1.3 kPa (± 10mmHg)
Transmembrane	-40 kPa-66.7 kPa (- 300mmHg-500mmHg)
Display Scope	
Index Precision	± 2.67 kPa(± 20mmHg)
Blood Pump Flow Rate	
Flow Rate Range	10-500ml/min(inner diameter ϕ 5mm-8mm)
	20-500ml/min(inner diameter ϕ 9mm-10mm)
Error Range	± 10%
Anti-coagulation Auto Syringe Pump	
Syringe Specifications	20ml, 30ml
Syringe Method	Constant
Adjustable Range	0.1ml/h-10ml/h
Syringe Error	± 5%
Air Supervision and Protection	
Using ultrasonic principle to detect bulbs in the venous pot Fully-automatic venous clip	

Measuring breakdown of the blood tubing while dialysis treatment, automatically cut off blood circulation, ensuring the safety of the instrument

- Routine Specifications

Dialysate Flow Rate	
Flow Rate Range	200ml/min-600ml/min
Flow Error	$L+10%$ $-5%$
Weighing(gravity sensor)	
WeighingRange	0kg-20kg
WeighingResolution	1g
Error Range	$\pm 0.5%$
Ultrafiltration Volume	
Adjustable Range	0ml-4000ml/h
Ultrafiltration Precision	± 300 ml/h
Pure Ultrafiltration	
Adjustable Range	0ml-2000ml/h
Ultrafiltration Precision	± 30 ml/h
Temperature of Dialysis Fluid	
Adjustable Temperature	34-40°C (adjustable)
Error Range	± 0.5 °C
Resolution	0.1°C
Blood Leakage Supervision and Protection	

- Cleaning and Disinfection Program

Ordinary Temperature Cleaning	
Cleaning Temperature	37°C
Cleaning Flow	500ml/min
Disinfection Sterilization	higher than 85°C
Disinfection Flow	300ml-600ml/min
Chemical Disinfection	
Removing calcium by using citric acid solution Disinfecting by using sodium hypochlorite and peracetic acid solution	

CHONGQING TIANHAI MEDICAL EQUIPMENT CO., LTD.

DTB-100

Multi-function Pump (Portable Single Pump)

- Performance Features

- Optional AC and DC power supply
- Unique design and good exterior
- Small and portable
- Stable performance and high safety
- Joint application of master pump and subordinate pump
- Independent use of master pump
- Used for ambulance, emergency department, household and outdoors onsite first-aid



Main Functions

- Blood perfusion
- Ascitic fluid retransfusion (cirrhosis)
- Pure ultrafiltration (dehydration)

- Product Parameters

Voltage: AC220V/DC24V
Frequency: 50Hz
Power: <50W
Weight: <10Kg

- Blood pump

Master Pump
Blood Flow: 10-400ml/min (adjustable)
Precision: $\pm 10\%$
Pipe Line Rate: 1:8, 1:9 or 1:10

- Pressure Monitor

Venous Tension: 0kPa-40kPa (0-300mmHg)
Precision: $\pm 1.3\text{kPa}(10\text{mmHg})$
Arterial Tension: -300-300mmHg
Precision: $\pm 1.3\text{kPa}(10\text{mmHg})$
Full automatic clip control

- Air Detector

Detecting way: ultrasonic
Detection location: venous pot

- Auxiliary Pump

Fluid Flow: 20-170ml/min (adjustable)
Precision: $\pm 10\%$
Pump Line Rate: 1:9 or 1:10

- Heparin Pump (optional)

Syringe Specifications: 20ml
Bolus Speed: 0.1-10.0ml/h
Precision: $\pm 2\%$

CHONGQING TIANHAI MEDICAL EQUIPMENT CO., LTD.

DTB-100

Multi-function Pump (double-pump)

- Performance Features

LCD screen, touch keys to control operation
 Small volume, light weight and portable
 Double-pump setting
 Completed monitoring function

- Main Functionst

Blood perfusion
 Ascitic fluid retransfusion for cirrhosis patient
 Blood plasma separation

- Blood Pump

Blood Flow: 40-400ml/min (adjustable)
 Precision: $\pm 10\%$
 Pump Line Rate: 1:8, 1:9 or 1:10

- Fluid Pump

Fluid Pump Flow: 20-170ml/min (adjustable)
 Precision: $\pm 10\%$
 Pump Line Rate: 1:8, 1:9 or 1:10



- Heparin Pumpt

Syringe Specification: 20ml
 Bolus Speed: 0.1-10.0ml/h
 Precision: $\pm 2\%$

- Pressure Detection

Venous Tension: 0-40kPa(0-300mmHg)
 Precision: $\pm 1.3\text{kPa}(10\text{mmHg})$
 Arterial Tension: -40-40kPa(-300-300mmHg)
 Precision: $\pm 1.3\text{kPa}(10\text{mmHg})$
 Full automatic clip control

- Air Detector

Detecting Way: Ultrasonic
 Detecting Location: Venouspot

- Product Parameters

Voltage: 220V
 Frequency: 50/60Hz
 Power: 200W