

# HMD-3008 Series

Haemodialysis Machine with R.O. Plant



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

**Analytical Technologies Limited**

An ISO 9001 Certified Company

[www.analyticalgroup.net](http://www.analyticalgroup.net)

## ►► Hemodialysis Machine

### ►► Main performance of this device

- Self-checking function
- Carbonate dialysis
- Double needle dialysis
- Liquid level detector
- Bubble detector
- Blood leakage detector
- Temperature and electric conductivity monitoring
- Arterial pressure, venous pressure and transmembrane pressure monitoring
- Rolling blood pump
- Heparin pump
- Dehydration amount controlled by capacity
- Automatic disinfection cleaning program
- Stand-by power of blood pump in case of power failure
- Information display function of display screen



### ►► Technical Data

#### General data

Dimensions	1380 x 380 x 400 mm (H x W x D);
Weight approx.	88 KG;

#### Water supply

Water inlet pressure	1.5-6.0 bar
Water inlet temperature	5°C~32°C
Max. drain height	1m

#### Concentrate supply

Supply pressure	0 to 2 m suction height
-----------------	-------------------------

#### Electrical data

Power supply	AC220V±10%, 47-63HZ
Current consumption max.	max. 10 A

## ►► Extracorporeal circuit

### Arterial pressure monitoring

Display range	-380 mmHg to +400 mmHg
Accuracy	±10 mmHg
Resolution	1 mmHg

### Venous pressure monitoring

Display range	-180 mmHg to +600 mmHg
Accuracy	±10 mmHg
Resolution	1 mmHg

### Transmembrane pressure monitoring

Display range	-180 mmHg to +600 mmHg
Accuracy	±20 mmHg
Resolution	1 mmHg

### Arterial blood pump

Blood flow range	30 to 600ml/min in 8 mm bloodline systems
Accuracy	±10%

### Air bubble pump

By ultrasound transmission, additional optical monitoring in venous clamp.

### Heparin pump:

Delivery range	0ml/h to 10ml/h
Bolus function max.	20 mL per bolus
Syringe size	10, 20, 30, 50ml

## ►► Dialysis fluid circuit

### Dialysis fluid flow range

Selectable	100-800 mL/min
------------	----------------

### Dialysis fluid temperature

Selectable	34.0°C to 40.0°C
------------	------------------

### Dialysis fluid conductivity

Range	12 to 16 mS/cm (25°C)
Accuracy	±0.1 mS/cm

### Acid concentration dialysis fluid

Default mixing ratio	1+34 (others possible)
Range	125 to 150 mmol/L

### Bicarbonate concentration dialysis fluid

Default mixing ratio	1+27.6 (others possible)
Range	-8 to +8 mmol/L bicarbonate

### Ultrafiltration

UF rate	0ml/h~4000ml/h
Accuracy	±1%
Allowed dialyzer UF factor	unlimited
Parameter displayed	UF goal, UF time, UF rate, UF volume

### Blood leak detector

Sensitivity	≤0.35 mL blood/min (HCT=32)
KT/V	
Calculation	

### Disinfection and cleaning programs

#### Rinse

Temperature/flow	30 to 60°C / 300 to 800ml/min
------------------	-------------------------------

#### Hot Rinse (recirculation)

Temperature/flow	30 to 85°C / 300 to 800ml/min
------------------	-------------------------------

#### Hot disinfection with chemical

Temperature/flow	30 to 85°C / 300 to 800ml/min
------------------	-------------------------------

Various program combination selectable

## ►► Technical Data-Options

### Blood pressure Monitor (BPM) (Optional Function)

Display range	Systole: 40-280 mmHg
	Diastole: 40-280 mmHg
	Accuracy: 1 mmHg

### Central Delivery system for acid conc.

Supply pressure 0 to 100 mbar; 1 m suction height with Central delivery system: 0-500 mbar

Endotoxin filter-- Dialysis fluid filter system **(Optional Function)**

Balancing accuracy ±0.1% of dialysate flow

### Bicarbonate dry

Concentrate Bi-cart **(Optional Function)**

## ►► RO Water Treatment Machine for Dialysis



### General Description:

Water capacity	2000L/H
Rated voltage	AC380V, 50Hz, 3-Phase 4-wire.Desalination rate: 99.8%
Recovery rate	65%-85%
Ion removal rate	99.5%-99.9%
Bacteria & endotoxin remove rate	99.8%
Working temperature	5-40°C
Tech adopted	pretreatment + RO system
Pre-treatment	Sand filter, Active carbon filter, Water softener
Control	PLC control system adopted

## ►► Pure water quality

PH	5.0-7.0	Nitrate	≤0.06μg/ml
Cond.	≤5μS/cm	Nitrite	≤0.02μg/ml
Endotoxin	≤0.10 EU/ml	NH <sub>3</sub>	≤0.3μg/ml
TOC	≤0.50mg/L	Microorganism	100CFU/ml
Heavy metal	≤0.5μg/ml		

## ►► Working Process

Booster pump → sands filter → active carbon filter → water softener → PP filter → high-pressure pump → RO system → water using points

## ►► Detail introduction

### Booster Pump

Provide power for pretreatment & RO system. Boosters pump in the whole system adopt famous brand or other international brands (optional), which has high quality and long service life. SUS material.

### Sand Filter

Different size of quartz sand will be put in the sand filter. Get rid of turbidity, suspended solids, organic matter, colloid, etc. in the water.

### Active Carbon Filter

Remove color, free chloride, organic matter, harmful matter, etc. Remove 99% of the chlorine and organic chemicals. Provide enhanced reduction of taste, odor and color. Protect and prolong the life of RO seawater desalination membrane.

### Water Softener

Soft and reduce the hardness of water, make it healthy for dialysis.

### PP Filter

Prevent any deposition of large particles, for holding back any large particulates such as iron, dust, SS, impurity into the RO membrane.

### High Pressure Pump

Provide power for RO system, equipped with over-heat, protect and pressure controller. Pump in the whole system adopt famous brand or other international brands (optional), which has high quality and long service life. SUS material.

### RO System

Adopts high desalination rate USA world famous DOW membrane to treat water and get clean water for dialysis treatment. It removes the following water contaminants that may be present in water: lead, cooper, barium, chromium, mercury, sodium, cadmium, fluoride, nitrite, nitrate, and selenium.

### Electrical Control System

All pipeline & fittings adopted in the whole plant are anti-corrosion material. Wire and cable will make use of CN famous brand which have good quality and long service life.

## ►► RO water treatment machine 2000L/H detail list

Components	Specification	Quantity	Remarks
Automatic sand filtration machine	600*1850, 2472	1 Unit	
Automatic carbon filter machine	600*1850, 2472	1 Unit	
Automatic softener	600*1850, 2472	1 Unit	
Salt tank	350 L	1pcs	For regenerate the softener
Raw water pump	CHL8-40	1 Unit	
High pressure pump		2 Unit	Double pass:
High pressure pump		1 Unit	Single pass
Absolute Filters	5*20"	1 Unit	
P filter	5 um	3pcs	
Reverse osmosis membrane	8040 (Dow)	5 Units	Double pass
Reverse osmosis membrane	8040 (Dow)	3 Units	Double pass

## ►► Consumable replacing period

Goods name	Specification	Life of usage	Function
Quartz sand	4-6,6-8	18-20 months	Large particles of impurities in water filtration
Activated carbon		18-20 months	Removal of chlorine, bleach and other oxides, organic
Cation resin	001*7	18-20 months	Removal of calcium and magnesium, to soften water
Coarse salt		Every week	Resin regeneration supplies
Security filter	20"×5um	20 days	Protection of Reverse osmosis membrane
Reverse osmosis membrane	8040 (Dow)	18-20 months	Removal of all metal ions \ salt \ bacteria \ Virus \ make water conductivity \ particulate matter, and so reach the water requirements

## ►► Note:

Warning alarms when anomalous water level/pressure. Protect from low/high pressure, short/open circuit, leakage and over current. Timing RO auto wash.



## HPLC Servicing, Validation, Trainings and Preventive Maintenance :

**HPLC Servicing** :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

**Trainings** :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

**AMC's/CMC** :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

**Validations** :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

**Instruments** :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



## About Analytical Technologies

Analytical Technologies is synonymous for offering technologies for doing analysis and is the Fastest Growing Global Brand having presence in at least 96 countries across the global. Analytical Technologies Limited is an ISO:9001 Certified Company engaged in Designing, Manufacturing, Marketing & providing Services for the Analytical, Chromatography, Spectroscopy, Bio Technology, Bio Medical, Clinical Diagnostics, Material Science & General Laboratory Instrumentation. Analytical Technologies, India has across the Country operations with at least 4 Regional Offices, 6 Branch Offices & Service Centers. Distributors & Channel partners worldwide.

## Our Products & Technologies



UV/VIS  
Spectro 2080+  
Double Beam



Infra FTIR



Optima Gas  
Chromatograph  
3007



Optima Gas  
Chromatograph  
2979 Plus



Flash  
Chromatograph



Atomic Absorption  
Spectrophotometer



Liquid Particle  
Counter



Optical Emission  
Spectrophotometer



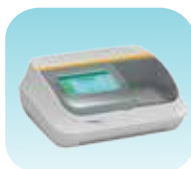
DSC/TGA



Semi Auto Bio  
Chemistry Analyzer



HEMA 2062  
Hematology  
Analyzer



Micro Plate  
Reader/Washer



URINOVA 2800  
Urine Analyzer



Total Organic  
Carbon 3800



Fully Automated  
CLIA



NOVA-2100  
Chemistry Analyzer



PCR/Gradient PCR/  
RTPCR



TOC  
Analyzer



Laser Particle  
Size Analyzer



Ion Chromatograph



Water purification  
system

## Regulatory compliances



## Corporate Social Responsibility

Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:



**Analytical**  
**Foundation**

1. Research & Innovation Scientist's awards/QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at [Info@analyticalfoundation.org](mailto:Info@analyticalfoundation.org)

2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

## Reach us @



 **Analytical**®  
Technologies Limited

HPLC Solutions   MultipleLabs   Analytical Bio-Med   Analytical Distributors   Analytical Foundation (Trust)

**Corporate & Regd. Office:**  
Analytical House, # E67 & E68,  
Ravi Park, Vasna Road, Baroda,  
Gujarat 390 015. INDIA

T: +91 265 2253620  
+91 265 2252839  
+91 265 2252370  
F: +91 265 2254395

E: [info@hplctechnologies.com](mailto:info@hplctechnologies.com)  
[info@multiplelabs.com](mailto:info@multiplelabs.com)  
[info@analyticalgroup.net](mailto:info@analyticalgroup.net)  
[info@analyticalbiomed.com](mailto:info@analyticalbiomed.com)

W. [www.analyticalgroup.net](http://www.analyticalgroup.net)  
[www.hplctechnologies.com](http://www.hplctechnologies.com)  
[www.multiplelabs.com](http://www.multiplelabs.com)  
[www.ais-india.com](http://www.ais-india.com)

Sales & Support Offices:  
across the country :  
Distributors & Channel  
partners World Wide