

Haemodialysis Machine Regular Type with R.O. Plant

HMD 3000 Series



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Analytical Technologies Limited

An ISO 9001 Certified Company

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▶▶ **Clinical Application:**

- Hemodialysis (HD)
- Pure Ultrafiltration (ISO UF)
- Hemoperfusion (HP)
- Plasma Exchange (PE)

▶▶ **Product Features:**

- LCD touch screen with high definition(12.1)
- Automation: Self-test, rinse, disinfection, ISO UF, shutdown, etc.
- Automatically start treatment once blood flow sensed.
- Use with dialysis fluid of various formulas (acetate & bicarbonate).
- Single pump: Compatible with blood lines of different diameters.
- Blood pump driving motor is brushless.
- Double needle dialysis.
- Magnetic valves made in Switzerland in application.
- Gear pump imported from Italy and stepper motor from Japan.
- Dailysate flux linearity adjustable (300~500mL/min).
- Unique rotating knob adjust dialysate flux rate, more convenient for operator.
- Na⁺ and UF profile adjustment for patient most comfortable.
- Heparin Bolus with maximum speed up to 7.5ml/min.
- One key START and one key STOP save operator's time by starting all pre-stopped settings in one time.
- Large capacity system log storage.
- In-built battery backup for at least 30 minutes.

▶▶ **Safety Guaranteed:**

Audible & visible alarm with warning messages & troubleshooting.

- Blood flow monitoring
- Arterial and Venous pressure monitoring.
- Transmembrane pressure (TMP) monitoring.
- Air Monitoring: Air bubble detector using infrared sensor, Blood level detector using ultrasonic sensor.
- Blood leakage monitoring.
- Water way entirely apart from electric way.
- Dialysate temperature is selectable between 33 and 40°C.
- Conductivity is controllable.
- Sodium and ultrafiltration profiles for various treatment conditions.
- Heparin pump timing for safety and convenience.
- Disinfection: Rinsing, hot disinfection, chemical disinfection;

▶▶ **Double-circulation disinfection system:**

Fluid supply loop and return loop are completely separated during disinfection to avoid pollution of the whole machine in case of mis-sucking disinfection liquid. This gives protection from intercross infection.

▶▶ **TECHNICAL SPECIFICATIONS:**

General Data:

- Dimensions: 550 x 650 x 1320mm (LxWxH)
- Weight: Appro. 70 Kg
- Water inlet pressure: 0.1~0.5 MPa
- Water inlet temperature: 5~30°C
- Ambient temperature: 10~30°C
- Relative Humidity ≤70%

Extracorporeal Circuit:

- Arterial pressure monitoring:
- Display range: -300~+400mm Hg (±10mmHg)
- Venous pressure monitoring:
- Display range: -50~+300mm Hg (±10mmHg)
- TMP range: -100~+600mm Hg (±20mmHg)
- Blood pump/Spare pump:
- Flow range: 15~340 mL/min (ø 6mm)
- 20~620 mL/min (ø 8mm)
- Blood level detector: ultrasonic sensor.
- Air bubble detector: infrared sensor.
- Threshold of reaction: single air bubble of 200 µl

Electrical Data:

- Power ≤ 2200W
- Frequency: 50Hz
- Voltage: AC220V ±10% (110V optional)

Dialysis Fluid Circuit:

- Dialysate flow range: linearity adjustable 300~500mL/min
- Dialysate temperature range: Selectable 33~40°C
- Dialysate conductivity range: 12~15.5mS/cm (±0.2mS/cm)
- UF flow range: 50~2000mL/hr (±30mL/hr) (±30mL/hr)

Blood leak detector:

- Automatically close the blood loop when blood leak $\geq 1\text{mL}$ per liter dialysate (Flow: 800mL/min)

Disinfection and Cleaning:

- Disinfection: Use citric acid and peracetic acid.
- Hot rinse temperature: 85°C.

Pre-treatment:

- Pre-treatment should have a Mesh Filter of 50 microns.
- 800 Liters capacity to store Raw Water.
- Automatically controlled Solenoid Valve.
- Sand Filter with sand particles of different grade with fully automatic backwash & rinse cycles.
- Particle filter, cartridge filter type of 50 microns to 10 microns.
- Built in dual column softener with fully automated digital display, brine fill and clean cycles. It should also have a brine tank incorporated in the system.
- Carbon filter with fine carbon granules.



RO Unit:

- Fully programmable, Microprocessor based fully automatic RO System (as per AAMI Standard)
- Inbuilt ability to measure conductivity of permeate produced, temperature, yield, permeate output supply.
- 1500 Liter /hour of permeate.
- Should have dynamic Water-Saving Technology and rinsing system available.
- Yield setting is between 50% - 70%.
- Operate on 3-phase supply.
- Appropriate Online UPS required for RO Plant.
- Automatic volume controlled disinfection cycle.
- In built capabilities to show on display for Permeate & for Raw Water (Consumption in Liters/min & Pressure)
- Programmable fully automated rinse cycle.
- Provision of OFF line mode and ONLINE mode of Permeate Supply.
- Automated heat disinfection of the distribution loop.

Post Treatment System:

- Appropriate material and shape Permeate Storage Tank(800ltr)
- Sub-micron bacterial filter of 0.2 microns manually back washable.
- Flow Indicator of Wall mounting type showing Litres / Min Supply and to build back pressure.
- One additional booster pump should be supplied with the system.
- 316 grade Push-Pull type Stainless Steel Connectors.

▶▶ Regulatory compliances



▶▶ Corporate Social Responsibility

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Analytical Foundation

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