Greyfalcon Healthcare Pvt. Ltd.

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nephrotron™

DIALYZER REPROCESSING SYSTEM

Duo S

Dual Station Dialyzer Reprocessing System

nephrotron™
Dialyzer Reprocessing System

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PRODUCT OVERVIEW

nephrotron is an ultra low power, ultra compact, ultra hygienic, Android™ device based dialyzer reprocessing system. The system supports simultaneous reprocessing of two dialyzers in less than eleven minutes, both high flux and low flux dialyzers and hemodia-filters can be reprocessed. The device operates over Bluetooth (BLE) technology, it rinses, cleans and tests membrane integrity and blood compartment volume before filling your dialyzer with sterilant. The dialyzers serial number can be captured with in-built bar code scanner and reprocessing status for each dialyzer is stored automatically in an .xls report and can print over WiFi or emailed to any registered mail ID of hospital staff.

Each nephrotron system is shipped with a dual unit drip tray, a high definition 7 inch Android™ tablet, a water pressure gauge to measure water pressure supplied to the system and other accessories like blood port caps, test strips, PVC medical graded tubes for water connections along with user guide for installation and operation.

KEY FEATURES

The key features of nephrotron™ dialyzer reprocessing system are :

- **High Speed Reprocessing :** Automated Reprocessing for single or dual units of all standard dialyzers. Safe for cellulose based and synthetic membranes.

- **Quality Checks:** After cleaning each unit, the system performs an automated tests on dialyzer, a pressure test and blood volume test. The pressure test checks for any holes in the dialyzer. The blood volume test ensures that the dialyzer's capacity is above 80% of the dialyzer's stated size.

- **Sanitize machine :** The system supports automated disinfection using RO water, Citric acid, cold sterilant and bleach.

- **High Definition User Experience :** Operating device with Rich UI, Android™ powered Tablet for user input.

- **Ultra Hygienic :** Operate the machine over Bluetooth (BLE) from an acceptable distance for ultra hygienic experience also reduces exposure to chemicals.

- **Print and email reports over WiFi:** Reprocess status report of each dialyzer is maintained in a report in xls format, these reports can be print on standard printers connected over WiFi or emailed to registered email ID.

- **Bar code scan :** Maintain dialyzer serial numbers in the reprocessing report manually or scan the barcode using in-built barcode scanner app in Android tablet.

- **Error status and alarm :** Progress and error states are displayed over high resolution OLED display on the system and Android UI. Also, electronic buzzer generates different alarm tones to notify the hospital staff about system status.

- **Easy calibration methods :** The device parameters for max/min water pressure, chemical concentration to use and bundle volume can be calibrated through user application.

- **Certificate :** Electronics are RoHS compliant, other certifications are under review.

REPROCESSING DIALYZERS

nephrotron is a dual station dialyzer reprocessing system, lab technician can select single station on slot one or two or select both stations to operate simultaneously. The lab technician can then provide the type of dialyzer used by specifying the TBV (total bundle volume) of the dialyzer. The fig shows the reprocessing screen, this screen shows the progress bar of the on going reprocessing, the active, pending and completed state with a check mark, displays the tank weight, chemical concentration, water and air pressure on each station. Upon completing the reprocessing the results for blood leak tests and bundle volume tests are displayed.

ERRORS AND ALERTS

The system will need RO water between 20 to 55 psi, chemical of particular concentration to reprocess the dialyzers effectively. During the process if water pressure drops low or exceeds the range then an error message is displayed on the screen with a buzzer sound to alert the technician. Similar error messages and buzzer alerts are generated for low and high concentration of chemical, technician also gets alert for port check failures.

INBUILT BARCODE SCANNER

Hospitals might have maintained the patient data with an ID which can be retrieved using bar codes or manual prints. nephrotron reprocessing system has in-built bar code scanner app that uses the rear camera on the tablet to scan the bar codes and record the same in the status report. Technician also has an option to type the serial number or ID manually.

REPORTS WITH EMAIL AND PRINT OPTIONS

The status of the reprocessed dialyzer is maintained in an .xls sheet. The information - patient ID, date and time of reprocessing, technician ID, results from blood leak and bundle volume tests are captured in the report. Technicians or hospital staff can print this report to any standard printers or get this report emailed over WiFi to desired mail ID.

OPERATING OVER BLUETOOTH

The lab technician can operate the machine from a distance over bluetooth connectivity, the machine prompts the technician over OLED display to connect the tablet, upon successful connection the technician is allowed to begin the reprocessing of dialyzers.

TECHNICAL DATA - nephrotron

Dimension	:	20" x 16" x 12" PolyPropylene (PP) body to avoid electrical hazards.
Weight	:	18 Kgs
Water	:	Supply - 20 to 30 PSI (min) 55 PSI (max) R.O water Consumption - 10 Litre / cycle for two units of dialyzers Max drain height - 1 meter to ground level
Electrical Data	:	Power Supply 110/230VAC, 50/60Hz, Current consumption - max 8A In-built Tablet USB charger included.
External Connection	:	Water inlet, Chemical inlet, Drain outlet
Disinfectant	:	Chemicals - Cold Sterilant, Citric acid, Bleach
Alarm	:	High sound buzzer with error display for following,

- High and Low water pressure
- No disinfectant
- High and Low chemical concentration
- TBV Fail
- Blood Leak test Fail
- Port check Failures

OLED	Blood Port connector	Bluetooth indicator	Buzzer	Tablet

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MADE IN INDIA