



OFFICE OF THE DEPARTMENT OF NEPHROLOGY
REGIONAL INSTITUTE OF MEDICAL SCIENCES HOSPITAL, IMPHAL
(An autonomous Institute under the Ministry of health & family welfare, govt. of India)

MAIN WATER TREATMENT PLANT (Qty: 01 No.)
Specification for Main Water Treatment Plant/ RO Plant for 10(TEN) HD Machines

SL.No.	Specification Required
1	Operational Requirements
1.1	The system should be sufficient for online operation of 10 machines with pure water capacity of 1000 litres/ hour
2	Pre- Treatment system
2.1	Raw water feed pump
2.2	FRP Multi grade sand bed filter with automatic back wash and rinse cycle everyday
2.3	FRP activated carbon filter with fine carbon granules. Should have fully automatic backwash cycle & rinse cycle every day.
2.4	Should have FRP softener filter
2.5	Pressure gauges to check differential pressure
2.6	Anticline dosing system
2.7	Membrane cleaning system(CIP)
3	Fine filtration & reverse osmosis
3.1	Micron filter
3.2	R.O Membrane with FRP housing
3.3	Vertical high-pressure pump with motor.
3.4	S.S. skid for mounting R.O. equipment's controls
3.5	H.P. switch & L.P. switch for high pressure pump
3.6	Ultraviolet system
4	Electrical control panel

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**Dialysis
Reprocessing
Unit**

Dialyzers Reprocessing System

1. Fully automated/computerized dialyzers reprocessing system.
2. High standardization in cleaning, volume measuring, leak testing and chemical disinfecting.
3. No external dilution/ minimize chemical contact.
4. Simultaneously and independently re-process one dialyzer at the time.

Dialyzer Reprocessing

1. Reprocessing process: Automatic cleaning, volume measuring, leak testing and chemical filling.
2. Should be able to process all types and brands of dialyzers.

Electricity Requirement

1. 100-240 VAC, 50-60 Hz

Water requirement

1. RO or DI water in accordance with AAMI standard for haemodialysis.
2. Input pressure 25-30 psi
3. RO water requirement should be as low as 14 to 18 litre/ dialyzers.

Display

1. LCD display
2. Data ability to store, display and print/ dialyzer and patient history data and with printer facility.
3. 3.Failure message status.

Chemical Requirement

1. 1.Should be able to use eligible and authorized disinfectant
2. Quantity consumed to be specified for dialyzers, safety Alarms, Audible, & Visible Alarms.

Other Requirement

1. Loose connector.
2. Dialyzer volume priming failure.
3. Leak test failure
4. Empty solution.
5. Self-test and disinfection interlock.
6. Priming volume lower than limit.
7. Incoming water pressure e failure
8. Date & Time:/ Reprocessing time
9. 8-13 minutes/ dialysis
10. Data management system.
11. Sterilant volume indicator cartridge.
12. Machine demonstration has to be done in the AIIMS, Jodhpur. Time and date of demonstration will be as per department decision.
13. Facility to check fibre bundle leakage to upgrade software.
14. To test blood port connection and dialyzer header caps for proper fittings.
15. Inbuilt dedicated software and facility to upgrade software.
16. Provision to pressure gauge 0-100 PSI and drip tray
17. Provision to disinfectant uptake tube assembly, drain out let pipe
18. To use disinfectant cold reprocessing and sanitization
19. Separate cycle for water sample collection
20. RO water requirement should be as low as 14-18 litres per dialyzers
21. No pre dilution of disinfectant and to use negative pressure test on fibre
22. Filling of bundle volume should be 3 times.

Chandrasekhar

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Specification of Multichannel Cardiac Monitor(non invasive) – 6 nos.

1. Monitor should have facility for Monitoring the following parameters – ECG, Respiration, SPO₂, NiBp and Temperature & Dual Invasive Pressure.
2. Monitor should have EtCO₂ module with necessary accessories.
3. Monitor should have facility to display at least 6 waveforms.
4. Should have Integrated High Resolution Backlit LED display. The display size should be more than 10.00 inch.
5. The monitor should operate on scurfy Optical encoder (Rotary Knob) & Touch pads.
6. Weight of monitor should not be more than 4 kgs.
7. At least one of the keys should be user configurable.
8. Monitor should have ST segment analysis and Arrhythmia Detection facility.
9. SPO₂ should be branded High acuity Masimo/Nellcor with facility to display Plethysmoograph, SPO₂ values and Pulse Rate.
10. The Monitor should have advanced Alarm management system with facility to grade the alarm by priority.
11. Monitor should have Reminder Alarm and Timer facility.
12. Monitor should able to store and recall at least 160 Hours in both Graphical & Tabular format.
13. Monitor should able to store and recall at least 5 pages of ECG for later review.
14. To enable ease of viewing Monitor should have a separate Alarm page for display of at least 30 alarm conditions.
15. Monitor should have ease of setting of limits through Auto set as well as manually.
16. Invasive Blood Pressure Zeroing should be easy with facility to Zero either from monitor OR from the cable close to the patient.
17. Monitor should have port for connectivity to devices like IABP for easy synchronization.
18. Monitor should have facility for connecting High Resolution Large Displays through latest HDMI ports.
19. Should be able to communicate with the central Station in either Wired OR wireless form.
20. Monitor should have USB port for ease of Patient data download as well as software uploads.
21. Monitor should have Demo modes for teaching staff.
23. Unit should be supplied with following accessories:

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- a. 3 lead ECG cable with disposable electrodes – 10 nos. of disposables electrodes
- b. NIBP CUFF – Adult & Pediatric
- c. Temp probe tape on Skin (YSI 400 Series)
- d. SPO₂ PROBE – One no. for Adult use.

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