



Republic of the Philippines  
Department of Health  
**METRO MANILA CENTER FOR HEALTH DEVELOPMENT**

**SUPPLEMENTAL/ BID BULLETIN NO. 1**

**IB2024 – 036E**  
**PROCUREMENT OF DIALYSIS EQUIPMENT PACKAGE**

This Supplemental/Bid Bulletin No. 1 is being issued to revise provisions/specifications in the Bidding Documents for a forecited project:

Revision and clarification to provisions/specifications in the Bidding Documents:	
<b>ORIGINAL TECHNICAL SPECIFICATIONS</b>	<b>AMENDED</b>
Arterial blood pump range of up to 500ml/min with 10ml increment	Arterial blood pump range of <i>at least</i> 500ml/min with 10ml increment
Sodium Bicarbonate Powder, 500 g	Sodium Bicarbonate Powder, <i>at least</i> 500 g
<b>Completion Period:</b> The delivery, installation, testing and commissioning of the equipment and its accessories, including the training of end-users and maintenance staff must be completed with 30 calendar days upon receipt of Notice to Proceed	<b>Completion Period:</b> The delivery, installation, testing and commissioning of the equipment and its accessories, including the training of end-users and maintenance staff must be completed with <i>90</i> calendar days upon receipt of Notice to Proceed

Bidders are advised to use the following attached forms and submit them together with all required documents for the submission of bids on the 14<sup>th</sup> day of June 2024, 9:00 AM:

This Supplemental/Bid Bulletin No. 1 shall be integral to the Bidding Documents. All other provisions indicated in the bidding documents not affected by this Supplemental/Bid Bulletin No. 1 shall remain in effect.

For guidance and information of all concerned.

Issued this 7<sup>th</sup> day of June 2024 in MMCHD

Approved by:

SGD.  
**JEREMIAS FRANCIS Y. CHAN, MD**  
Licensing Officer V / BAC Chairperson

## VII Technical Specification

Republic of the Philippines  
Department of Health  
Metro Manila Center for Health Development

### TECHNICAL SPECIFICATIONS

<b>Item No. 1</b>	<b>DIALYSIS EQUIPMENT PACKAGE</b>	Qty./Unit	<b>1 UNIT</b>
Name of Manufacturer:			Country of Origin
Brand:			Model: (if applicable)
ABC: <b>10,000,000.00</b>			
PURCHASER'S SPECIFICATION			STATEMENT OF COMPLIANCE
<p><b>TECHNICAL SPECIFICATIONS:</b></p> <p><b>1. DIALYSIS MACHINE (5 units)</b></p> <ul style="list-style-type: none"> <li>• General Function: Hemodialysis (HD) and Sustained Low-efficiency Dialysis (SLED) capable</li> <li>• Arterial Pressure Monitoring</li> <li>• Venous Pressure Monitoring</li> <li>• Dialysate conductivity monitoring</li> <li>• Equipped with a color touchscreen monitor</li> <li>• Arterial blood pump range of <i>at least</i> 500ml/min with 10ml increment</li> <li>• Heparin Dosage Profiling</li> <li>• Heparin pump: <ul style="list-style-type: none"> <li>a. Up to 10 ml/hr with 0.1 ml/hr increment</li> <li>b. Bolus range up to 5 ml/hr</li> <li>c. Syringe size up to 20mL</li> </ul> </li> <li>• Dialysate flowrate range: 300 – 800 mL/min with at least 10ml/min increment</li> <li>• Dialysate temperature: up to 39°C</li> <li>• Built-in non-invasive blood pressure monitor: up to 280mmHg with accuracy of ±3 mmHg or ± 2% of the reading</li> <li>• Power Supply: <ul style="list-style-type: none"> <li>a. Single-phase, 220V, 60Hz with an external Automatic Voltage Regulator (AVR)</li> <li>b. Internal back up battery that can allow the equipment to continuously operate a complete extracorporeal blood system during power failure.</li> </ul> </li> <li>• Mobility: Anti-static and rust-free wheels with brakes</li> <li>• Functionality Test: Automatic self-testing of the machine, hydraulic, sensors, limits, software and screen fuctions.</li> </ul>			

- Programmable Dialysate Flow Profile
- Programmable mixing ratio of the concentrate according to various potassium levels
- Programmable Bicarbonate profiling system
- Programmable Sodium profiling system
- Programmable Ultrafiltration profiling system (at least 6 preset and 10 freely programmable profiles)
- Safety Features:
  - a. Air bubble detector: ultrasonic sensor
  - b. Blood tubing clamp: 800 mmHg
  - c. Blood leak detector
  - d. Conductivity safety
  - e. Closed volumetric balancing chamber or closed volumetric duplex pump
  - f. Automatic setting of pressure limits for venous, arterial and transmembrane when blood flow is adjusted.
  - g. Indicator for the need to replace filter(s)
  - h. Memory back-up of the dialysis program during power failure.
  - i. The equipment must automatically shut off the blood pump, clamp the venous return line and stop the ultrafiltration during alarm condition.

**2. DIALYSIS CHAIR (5 units)**

- Load capacity: up to 150 kg patient weight
- Movable armrest that permits optimal placement of the arms
- Collapsible tables on both sides
- Adjustable back section and capable of Trendelenburg position and full horizontal position.
- Adjustable footrest to fit the leg length of the patient
- Total length: 6 feet
- Comfortable head cushion: at least 3 inches thick
- Washable upholstery material
- Four central locking casters
- Detachable tray table and detachable IV stand or a separate IV stand with at least two hook bag hanger, adjustable height, at least 4 leg base, at least 3 inch castors with lock.

**3. WATER TREATMENT SYSTEM (1 unit)**

- Single-pass Reverse Osmosis System (4000GPD)
  - a. Semi-permeable membrane: 2 x 4040 inches RO Membrane

b. RO Membrane Vessel: 4x40 FRP RO Vessel

c. 304 Stainless Steel Skid Frame

d. RO Pump

- Main Pump: 2.0 hp, 1.5 kw Multistage Vertical Pump, Single-phase, 220VAC, 60Hz

- Back-up Pump: 2.0 hp, 1.5 kw Multistage Vertical Pump, Single-phase, 220VAC, 60Hz

e. Switching: Automatic switching when other pump is faulty during operation. Manually Triggered switching when other pump is faulty during stand-by mode.

- Default Timer Setting: 1 hour

f. Control System

- Powder Coated Panel

- Pump A and B running indicators

- Individual circuit breakers with respective Overload Relays

- PLC Controlled Module

- Automatic sequence of Pump running

- With Manual override: Manually triggering of Pump whenever one of the pumps is not working

- Miniature Relays for load protection

- Emergency Stop

- Reset - during high-pressure

- Exhaust Fan

- Pressure Indicators: Low and High

- Water Level Indicators: Low and High

- RO Membrane Flushing Circuit

g. RO pre-filters: 10 Micron, BB20 Sediment Filter

h. Must be equipped with the following monitoring tools;

RO Module:

- Feed Pressure Gauge – 0-100 Psi Oil Gauge to monitor incoming pressure

- Concentrate Pressure Gauge – 0-350 PSI to monitor pressure at concentrate side of the membrane.

- RO Inlet Pressure Gauge – 0-350 PSI to monitor operating pressure of RO membrane.

- RAW Water TDS Meter - To monitor Total Raw Water quality.

- Feed TDS Meter - To monitor quality of mix water (RAW and

Concentrate) before the entering the RO Membranes.

- Product 1 Water TDS Meter - To monitor quality of product water.

- RO 1 membrane Individual Flow Meter – 5 GPM Individual Flow Meter to monitor individual flow of RO Membranes.

i. Water Storage Tank

- Raw Water Storage Tank:1,000 PE Type Storage Tank equipped with level switches with 304 SS Skid Frame

- Product Tank: 1,050 PE Type with Metal Skid Frame

• **Pre-treatment System**

a. 1 Set Multimedia: 13 X 54 FRP Tank with Automatic with automatic head

b. 2 Sets Carbon Filter: 13 X 54 FRP Tank with Automatic with automatic head.

c. 1 Set Water Softener Filter: 13 X 54 FRP Tank with Automatic with automatic head

d. Feed Pump: 1.5 kW, 2 hp, Single Phase, 220/240 VAC, 60 HZ, Single Phase

e. Equipped with individual Sampling Port

f. 120 Liters Brine Tank System

• **Distribution System**

a. Distribution Pump: 1.1 kW, 1.5 hp, Single Phase, 220/240 VAC, 60 Hz, Single Phase

b. Post RO Filtration:

- Pre UV - 20 Inches Slim Filter, 1 Micron Sediment Filter

- UV System - 1 Set 6 GPM UV System in Parallel

- Final Filtration: 20 Inches Slim 0.02 Micron Absolute Filter

c. Output pressure: The system must be able to supply a pressure of 0.5 to 1.5 bar to each dialysis machine and up to 3 Bars for the reprocessing machine.

d. Recirculation: Manually triggered when desired by the end user. The end of the loop is controlled by a Solenoid Valve or Motorized Ball Valve that will automatically open and close upon switching the recirculation switch.

e. Timer controlled with alternating function.

f. Integrated with a pressure gauge that monitors loop pressure.

• **Disinfection Line Access and Recovery System**

a. Using the Product 1 Tank as a Chemical Storage Tank for disinfection of the RO Membrane and Piping System.

b. Concentrate Recovery System – An option to recover the concentrate

of the RO1 and reprocess.

#### **4. DIALYZER REPROCESSING SYSTEM (2 units)**

• 4-Station Semi-automated Dialyzer Reprocessing System (Wall-mounted with Fiber Glass Sink)

##### **a. Materials**

- 304 Stainless Steel Frame
- Acrylic Claddings
- Chemical Resistant Fiber Glass Sink with Accessories
- Heavy Duty caster wheels

##### **b. Specifications:**

- Automatic Flushing, RUF and Final Rinsing sequence.
- Timer Controlled Sequence using PLC (Programmable Logic Controller)
- Manual Total Cell Volume Testing, using Positive Diaphragm Pump and Plastic Graduated Cylinder.
- Manual Leak Testing using High Precision Digital Pressure Switch.
- Peristaltic Electric Operated Positive Displacement Pump for chemical disinfection.
- Compatible to all types of Dialyzers.
- With in-line pressure gauge to monitor operating pressure.
- Individual pressure water pressure regulator to maintain adequate pressure every station.
- Manual preparation of disinfectant.
- Manual System cleaning.
- Using chemical resistant tubing and fittings

c. Monitors: Individual LED indicators for Flushing, RUF, Final Rinsing, Disinfection and Finish.

##### **d. Controls:**

- Using Programmable Logic Controller as main control system.
- 24 VDC/220 VAC SS 316 Solenoid Valves for Flushing, RUF and Final Rinsing.

• 2-Station Semi-automated Dialyzer Reprocessing System (Wall-mounted with Fiber Glass Sink)

##### **a. Materials**

- 304 Stainless Steel Frame
- Acrylic Claddings
- Chemical Resistant Fiber Glass Sink with Accessories

- Heavy Duty caster wheels

**b. Specifications:**

- Automatic Flushing, RUF and Final Rinsing sequence.
- Timer Controlled Sequence using PLC (Programmable Logic Controller)
- Manual Total Cell Volume Testing, using Positive Diaphragm Pump and Plastic Graduated Cylinder.
- Manual Leak Testing using High Precision Digital Pressure Switch.
- Peristaltic Electric Operated Positive Displacement Pump for chemical disinfection.
- Compatible to all types of Dialyzers.
- With in-line pressure gauge to monitor operating pressure.
- Individual pressure water pressure regulator to maintain adequate pressure every station.
- Manual preparation of disinfectant.
- Manual System cleaning.
- Using chemical resistant tubing and fittings

**c. Monitors: Individual LED indicators for Flushing, RUF, Final Rinsing, Disinfection and Finish.**

**d. Controls:**

- Using Programmable Logic Controller as main control system.
- 24 VDC/220 VAC SS 316 Solenoid Valves for Flushing, RUF and Final Rinsing.

**5. BICARBONATE MIXER (1 unit)**

- a. Tank capacity: 100 L
- b. Material: Polyethylene (Plastic)
- c. Input Voltage: 220VAC, 200 W, 1500 RPM
- d. Type of Mixing Process: Agitator System

**e. Specifications**

- Chemical Tank
- Timer Controlled System
- Equipped with Emergency Stop Switch
- Must be with visual indicators
- Speed must be adjustable.
- With .75 hp stainless steel dispensing pump.
- Movable with heavy duty caster wheel.

- 304 stainless steel skid frame
- 10" Pre Dispensing Filter with Housing

**6. DIGITAL WHEELCHAIR SCALE (1 unit)**

- a. Platform size: At least 0.8 m x 0.8 m
- b. Material: Stainless steel
- c. LED display with weighing indicators
- d. Equipped with 4 high-precision sensors for high weighing accuracy.
- e. Specifications
  - must be built with high-quality paint process.
  - must be wear-resistant, anti-skid and anti-fall for wheelchairs.
  - must be installed with compression-resistant U-shaped beam.

**7. DIALYZER RACK (1 unit)**

- a. Capacity: up to 100 Dialyzers per set
- b. Frame: White Aluminum Frame with Glass Door
- c. Hooks : 6 mm Acrylic, Laser Cut. (Clear)

**8. TREATMENT PACKAGE (10 treatments per unit)**

- a. Hemodialysis Liquid Concentrate
- b. Sodium Bicarbonate Powder, *at least* 500 g
- c. Bloodlines
- d. Fistula Needle, Arterial (Gauges 15, 16, 17) Fixed Wing
- e. Fistula Needle, Venous (Gauges 15, 16, 17) Fixed Wing
- f. Heparin Sodium, 1000 iu/ml, 5 ml
- g. Plain NSS, 1 L
- h. Fistula Kit
- i. High Flux Dialyzer

**9. OTHER CONSUMABLES**

- a. Industrial Salt
- b. Citric Acid, Premixed, 5L

**Requirements** if awarded the Contract

1. **Completion Period:** **Completion Period:** The delivery, installation, testing and commissioning of the equipment and its accessories, including the training of end-users and maintenance staff must be completed with *90* calendar days upon receipt of Notice to Proceed..
2. **Testing:** Prior to acceptance, the end user shall conduct a physical inspection and functionality test. The equipment must be functioning and must have no physical damage and defect.
3. **Training:** The supplier shall provide a training on the proper use and



maintenance of the equipment to the end-users and to the hospital maintenance staff within 3 days upon the delivery of the equipment.

**4. Warranty**

a) Warranty certificate for two (2) years on parts and service. The supplier shall either repair or replace any item or part in the equipment that is found to be defective in material or workmanship under normal use. The warranty period shall commence from the date of acceptance by the end-user after testing and commissioning.

b) Preventive maintenance at least every six (6) months or according to the manufacturer's recommendations;

c) Corrective maintenance within five (5) calendar days upon notification from the end-user regarding equipment breakdown/defects.

d) The number of days where the equipment is unusable due to equipment defects/faults shall be added to the warranty period.

e) The supplier shall specify post-warranty comprehensive preventive maintenance costs including list and prices of major spare parts of the equipment for three (3) years after the warranty period.

5. **Notarized undertaking** that the supplier shall conduct the necessary corrective maintenance within five (5) calendar days upon notification of the equipment breakdown from the end-user. The undertaking shall include a statement that the number of days where the equipment is unusable due to defective material or workmanship, shall be added to the warranty period.

6. **Manuals:** The supplier must provide the end-user one (1) hard and one (1) soft copy of the following:

a) Service manual in English language

b) Operation manual in English language

7. With "**DOH-MMCHD HFEP**" (Government Property not for sale) sticker in each unit.

x-x

Source of Fund: SAA 2023-02-000687 (HFEP 2023 ConAp)

Recipient: Rosario Maclang Bautista General Hospital