

REQUIREMENT SPECIFICATIONS

RFP NO. 20230901

REQUEST FOR PROPOSAL FOR THE SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF HAEMODIALYSIS MACHINES WITH RENAL POINT OF CARE SYSTEM TO NKF

1. Introduction

- 1.1 The National Kidney Foundation (“**NKF**”) wishes to appoint a contractor (the “**Contractor**”) for the supply, delivery, installation and commissioning of haemodialysis machines as described in these Requirement Specifications (the “**Goods**”), of dialysis centres in Singapore.

2. Product Specification

- 2.1 The Goods and Services must be registered with Health Science Authority (if necessary) and shall conform to the detail specifications in **Annex A1, A2 and A3**.

3. Quantity Requirement and Delivery Schedule

- 3.1 Vendors shall supply up to estimated 16 to 170 units of haemodialysis machines specified in paragraph 2.1.

Sno	Name of Dialysis Centre	Quantity of Haemodialysis /Haemodia-flitration machine	Delivery Schedule (Estimated date and subject to confirmation)
1	101 Simei (SMI)	37	Jun-24
2	IRC Level 2 (CP2)	22	Feb-24
3	633 Ang Mo Kio (AM2)	31	Feb-24
4	565 Ang Mo Kio (AM3)	23	Jan -24
5	840 Yishun (YS3)	16	Jul-24
6	935 Tampines (TM1)	33	Jan-25
Total number of estimated required machines		<u>162</u>	

4. Submission of RFP bids

- 4.1 Each Vendor should provide the price quote in the Price Schedule A and B for the number of Equipment specified in paragraph 3.1 above.
- 4.2 Under Price Schedule A , the Vendors are required to:-
- indicate the manufacturer’s guideline on replacement of backup and internal battery set per machine.
 - indicate the number of Engineers dedicated to support NKF in the provision of technical services during the warranty period and ensure preventive maintenance completed in scheduled month.
 - provide the breakdown list of components for software, hardware and installation.

5. Handling of Faulty Spare Parts

- 5.1 Vendor at their own expenses shall collect back all faulty spare parts that are being replaced under the warranty conditions, from the dialysis centre.
- 5.2 Vendor shall return faulty spare parts that are being replaced with chargeable spare parts to the staff in charge of the dialysis centre after serviced of any of the HD machines.

Product Description: Haemodialysis Machine

Annex A1

General Specification of Haemodialysis Machine				
Technical information	Parameters	Specifications	Comply Yes/ No	Remarks
General parameters	Power Supply	230V (±10%)		
	Nominal Frequency	47 - 63 Hz		
	Current Consumption	Max 10A		
	Inlet water pressure	1.5- 6 bar max		
	Water temperature range	5°C to 30°C		
	Concentrate supplies	Canister / Cartridge / Bags		
Safety Standards	General requirement for safety, class 1, type B.	EN 60601-1: (IEC 601-1)		
	Requirements for safety of haemodialysis equipment	EN 60601-2-16: (IEC 601-2-16)		
	Electromagnetic compatibility	EN 60601-1-2: (IEC 601-1-2)		
	Certification	CE certification		
		HSA Approval		
Extracorporeal circuit	Arterial pressure range	- 300 mmHg to + 280 mmHg (wider range is acceptable)		
	Accuracy	±10mmHg		
	Venous pressure range	-60 mmHg to + 520 mmHg (wider range is acceptable)		

	Accuracy	± 10mmHg		
	Transmembrane pressure	-60 mmhg to +520 mmHg (wider range is acceptable)		
	Accuracy	±10 mmHg		
	Blood pump	Peristaltic pump/ Roller pump		
	Blood flow range	15 to 600 ml/min in 8mm size tube		
	Accuracy	±10%		
	Air bubble detector	Ultrasound method, monitor the entire operating phase		
	Alarm Indicator	Traffic light to indicate the status		
	Safety line clamp	Safety line clamp for venous blood line		
Dialysis Fluid system	Dialysis fluid flow range	0-300-500-700-800 ml/min, selectable.		
	Dialysis fluid temperature	35°C to 39°C		
	Concentration of dialysate	12.8 to 15.7 mS/cm (25°C) (wider range is acceptable)		
	Accuracy	±0.2mS/cm		
	Electrolyte concentration adjustment	Prescribe Na+ and HCO3 adjustment		
	Blood leak detector	Optical detector, colour-specific		
	Ultrafiltration			
	UF rate	0 to 4000 ml/hr (higher range is acceptable)		
	Accuracy	±3%		
	Dialysate fluid filter system	Endotoxin filter		

Disinfection and Cleaning program	Minimal free Rinse time.		
	Thermal Disinfection/Cleaning - Heat/ Hot Rinse/ Integrated hot rinse		
	Chemical Disinfection - Hot/Heat Disinfection at Approx min 85°C. (Use recommended chemicals at a temperature)		
	Chemical Disinfection - Cold Disinfection (using Bleach / Bio spot / Use recommended chemicals)		
General Feature Required	Battery able to backup 20 mins to 30 mins during power failure		
Additional Features Required	Blood pressure monitor		
	Real-time KT/V measurement		
	Profiles: Sodium and Bicarbonate		
	Profiles: Ultrafiltration		
	Heparin Module		
	Inbuilt Patient Card reader for RPOC system		
	Dry Concentrate - Bicarbonate		
	Disinfection History		
	Auto ON/OFF weekly program		
	Central delivery system (CDS) option / upgradable		
Additional Information	Please indicate the number of hospital/ medical centre / Other dialysis centre installed/Supplied with of HD machines		
	Please indicate the number of hospital/ medical centre / Other dialysis centre installed/Supplied with HD Machine or other medical products of your company.		
	Service/breakdown calls response time during office hrs (Mon to Sat)		
	Service/breakdown calls response time after officer hrs (Mon to Sat)		



	Service/breakdown calls response time on Public holiday/ Sunday.		
	Comprehensive Maintenance costs for , 9 th , 10 th , 11 th years.		
	Preventive Maintenance - yearly once		
	Battery replacement Schedule - cost must be included		
	The lifespan of the machine		
	Warranty 8 years		

Accepted By:

Authorised Signature: _____

Signatory's name: _____

Signatory's title: _____

Vendor's name: _____

Vendor's stamp: _____

ADDITIONAL REQUIREMENT

The Objectives of the **Renal Point-Of-Care (RPOC) System** are as follows:

- To enable the capture of patient information during every dialysis treatment so as to provide a comprehensive medical record of all our patients inclusive of pre & post dialysis treatment parameters, medication ordered and prescribed, clinical notes, session alerts etc.
- To provide online monitoring during the dialysis sessions with the necessary alerts and reminders.
- To provide online access to our patient information by our doctors and clinicians anytime anywhere so as to enable timely intervention of patient treatment.
- To automate the download of clinical data from the dialysis machines during the treatment sessions at periodic intervals to our back-end main Clinical System.
- To enable bi-directional data exchange with external systems via XML data template from NKF.

Renal Point-Of-Care (RPOC) system requirements	Comply Yes/No	Remarks
• The dialysis machine must be equipped with the patient card reader and the ability to transmit dialysis machine readings and settings to and from NKF's selected RPOC System.		
• The communication protocol must be provided to NKF to enable the transfer of the dialysis machine readings and settings to and from NKF's selected RPOC System.		
• The system must be able to communicate with the weighing scales used by NKF to capture pre and post weight data.		
• The system shall include any hardware components to achieve full network connection eg. BSL (Bedside Link), LAN cables, and/or any proprietary connectors.		
• The system must be configurable to allow NKF to customize its own checklists, pre and post dialysis assessments with data validation and		

Renal Point-Of-Care (RPOC) system requirements	Comply Yes/No	Remarks
mandatory field options. Note this also applies to existing vendors that are currently having limitation to apply mandatory field options.		
<ul style="list-style-type: none"> The system must support the entry of Nurses notes (both during dialysis and independently) in the form of a clinical diary. 		
<ul style="list-style-type: none"> The system must allow NKF to maintain and manage its own master data. 		
<ul style="list-style-type: none"> The reports produced by the RPOC system must be customisable to our requirements. 		
<ul style="list-style-type: none"> The system must integrate to Active Directory for the ease of user setup. 		
<ul style="list-style-type: none"> The system database must only be in Windows Authentication mode, Mixed mode is not allowed (audit requirement). 		
<ul style="list-style-type: none"> The system must support our corporate device/software, namely: <ul style="list-style-type: none"> Windows 10 and 11 and Office 365 application Edge (Chromium) Browser Desktop: CPU i5, Windows 10, 8GB/16GB ram, 512 NVMD COW: CPU i5, Windows 10, 8GB/16GB ram, 256 NVMe/512 NVMe 		
<ul style="list-style-type: none"> The system must include any other hardware and/or software (with installation), except for the following that will be provided by NKF: <ul style="list-style-type: none"> Servers with OS and MS SQL database only Nursing station PC with OS only Computer on Wheels (COW) laptop with OS only 		
<ul style="list-style-type: none"> The RPOC system must be able to integrate with existing NKF Clinical System through XML data interface bi-directional, <ul style="list-style-type: none"> Taking patient data from NKF Clinical System to allow ease of patient card setup. Sending treatment plan, treatment data, clinical diary to NKF Clinical System to allow central storage of patient data. New data point from new machine model (eg. HDF) to be integrated. 		
<ul style="list-style-type: none"> The RPOC system data sync interval must be customisable to support real-time, hourly or predefined intervals as required. 		

Renal Point-Of-Care (RPOC) system requirements	Comply Yes/No	Remarks
<ul style="list-style-type: none">• Include 5 concurrent licenses per DC plus 1 concurrent license for every 4 machines or part thereof. Eg. 20 machines must include 10 concurrent licenses.		
<ul style="list-style-type: none">• The RPOC license must be transferrable to the next purchase of the same brand of HD machine		
<ul style="list-style-type: none">• There must be 6 patient cards included for every machine purchased.<ul style="list-style-type: none">• Example: 20 machines must include 120 patient cards.		
<ul style="list-style-type: none">• Contractor must be able to provide local application and technical support		
<ul style="list-style-type: none">• Local application and technical support coverage must be as follows:<ul style="list-style-type: none">• Refer Additional Terms and Conditions		

Accepted By:

Authorised Signature: _____

Signatory's name: _____

Signatory's title: _____

Vendor's name: _____

Vendor's stamp: _____