

## Request For Proposal For The Supply, Delivery, Installation and Commissioning Of Reverse Osmosis Water Treatment System, Centralised Acid Concentrate Delivery System and Haemodialysis Machines

## REQUIREMENT SPECIFICATIONS

Specification of Haemodialysis Machine				
Description of function				
A Haemodialysis machine is a medical device used to filter and purify patient's blood when their kidneys are unable to perform this function adequately. It circulates the blood through a dialyzer, removing waste products and excess fluids before returning the purified blood to the body.				
General Specification				
Technical information	Parameters	Specifications	Comply Yes/ No	Vendor Comments
General parameters	Power Supply	230V (±10%)		
	Nominal Frequency	47 - 63 Hz		
	Current Consumption	Max 10A		
	Inlet water pressure	1.5- 6 bar max		
	Inlet Water temperature range	5°C to 30°C		
	Concentrate supplies	Canister / Cartridge / Bags / Acid Central Delivery System		
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	- 20 mmHg to + 390 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 or alternative technique to monitor the entire operating phase		

Authorised Signature: \_\_\_\_\_

Vendor's stamp: \_\_\_\_\_

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	Alarm Indicator	Traffic light to indicate the status		
	Safety line clamp	Safety line clamp for venous blood line		
<b>Dialysis Fluid system</b>	Dialysis fluid flow range	0-300-500-700-800 ml/min, selectable.		
	Dialysis fluid temperature range	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 HCO <sub>3</sub> adjustment		
	Blood leak detector	Optical detector/ ultrasound, colour-specific or any alternative technique		
	<b>Ultrafiltration</b>			
	UF rate	0 to 4000 ml/hr (higher range is acceptable)		
	Accuracy	±3%		
	Dialysate fluid filter system	Endotoxin filter		
<b>Disinfection and Cleaning program</b>	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 )			
<b>General Feature Required</b>	Battery able to backup 20 mins to 30 mins during power failure			
<b>Additional Features Required</b>	Blood pressure monitor			
	Real-time KT/V measurement			
	Profiles: Sodium and Bicarbonate			
	Profiles: Ultrafiltration			
	Heparin Module			
	Patient Card reader for RPOC system			
	Dry Concentrate - Bicarbonate			
	Disinfection History			

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	Auto ON/OFF weekly program		
	Centralised Acid Concentrate Delivery System (CDS)		
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.		
	Preventive Maintenance - yearly once		
	Battery replacement Schedule - cost must be included		
	The lifespan of the machine		